

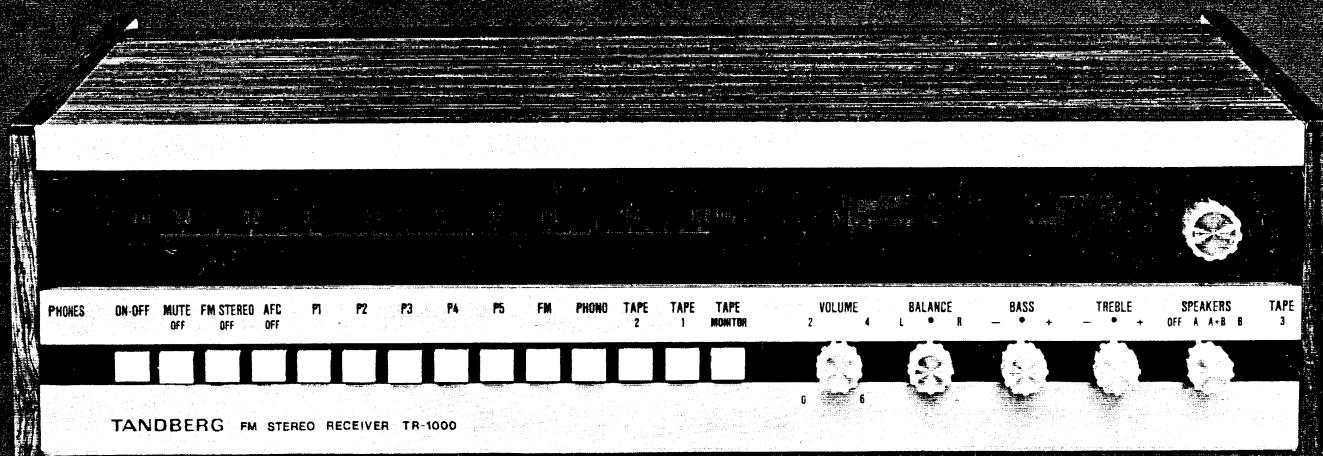
TANDBERG

FM STEREO RECEPTOR TR-1000

FM/AM STEREO RECEPTOR TR-910

# SERVICE HÅNDBOK

# SERVICE MANUAL



TANDBERG RICK MÅNGDÖR ABENKK AVS

Denne service-håndboken dekker TR-1000 og TR-1010 med deres variasjoner:  
TR-1000 (FM-mottaker med 5 forinnstilte FM-stasjoner).  
TR-1010 (FM/AM mottaker med 4 forinnstilte FM-stasjoner og MW).  
TR-1010 med ferrittantenne for MW.  
TR-1000 og TR-1010 med mikrofonforsterker.

This service manual covers TR-1000 and TR-1010 and their different versions:  
TR-1000 (FM receiver with 5 pretuned FM-stations).  
TR-1010 (FM/AM receiver with 4 pretuned FM-stations and MW).  
TR-1010 with ferrite antenna for AM reception.  
TR-1000 and TR-1010 with microphone amplifier.

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VED ENHVER HENVENDELSE VEDRØRENDE APPARATET, VENNIGST OPPGI TYPENUMMER OG APPARATNUMMER

IN ANY COMMUNICATION PERTAINING TO THE EQUIPMENT, PLEASE SPECIFY TYPE NUMBER AND SERIAL NUMBER

## Mekanisk service

### Demontering av kabinetet

Skruene fjernes i sideveggene som deretter kan trekkes av. Topp-platen frigjøres i bakkant og løftes av.  
NB! Topp-platen bør ikke trekkes ut sidelengs.

### FM - MF - platen

MF-platen kan vippes opp ved feilsøking på foliesiden og for lettere adkomst til tonekontroll- og venderplate. 4 skruer i forkant skrues ut hvoretter platen kan vippes opp.  
Hvis sjassiets sideplater bendes forsiktig ut, kan MF-platen frigjøres.

### Slutt-transistorene

Venstre kanals slutt-transistorer får man enkelt adgang til ved å fjerne høytalerkontaktbroen som er festet med en skrue i høyre ende (sett bakfra). Om nødvendig fjernes også lufteribben (3 skruer). Høyre kanals slutt-transistorers tilkoplinger kommer man til ved å fjerne lufteribben og likeretterplaten (3 skruer).

### Sluttförsterker-plate

Sluttförsterkerplaten kan trekkes ut gjennom bakvegen etter at høytalerkontaktbroen er fjernet og slutt-transistorenes kjølefinne er løsnet (4 skruer). Løs nødvendige faston-kontakter.

### Demontering av frontpanel

Knappene for volum, balanse, tonekontroller og høytalervelger trekkes av.  
Stasjonssøkerknappen er festet til svinghjulsaksen innenfor frontpanelet med en unbrakoskrue.  
Når knappen er fjernet, kan skala-dekkglasset forskyves, og en skrue på hver side bak dette fjernes samt en skrue på hver side bak vippedekslet. Løs festefjærene for LF-indikatorenes lyskasse. Frontpanelet kanderetter trekkes av (forsiktig med skalaviseren).

### Snortrekket

Snortrekket er vist i fig. 1.

## Mechanical service

### Disassembling the cabinet

Remove the screws in both sidewalls which then can be pulled off. Lift and remove the top cover while simultaneously bending the rear panel slightly backwards.

Note! The top cover should not be pulled out sideways.

### FM - IF - board

For service on the printed side of the IF-board and for easy access to the tone control- and the selector board, the IF-board can be flipped up. Four screws in front must be removed.

By bending the side panels slightly, the IF-board can be released.

### The power transistors

Easy access to the left channel output transistor is obtained by removing the speaker connector panel which is fixed with one screw at the right end (seen from behind). If necessary, remove the ventilation panel above the heatsink (3 screws). Access to the terminals of the right channel output transistors is obtained after removing the ventilation panel and the rectifier board.

### Power amplifier board

The power amplifier board can be pulled out through the rear panel after removing the speaker connector panel and the four fixing screws for the power transistor heatsink.

### Front panel

Pull off the rotary knobs for volume, balance, tone controls and speaker selector. The tuner knob is fixed to the shaft by an unbrako screw.  
When the tuner knob is removed, the blue cover glass can be pulled sideways in both directions to obtain access to the two fixing screws behind the glass.  
Remove the two screws behind the hinged lid. The front panel can then be removed.

### Dial cord drive

The dial cord drive is shown in fig. 1.

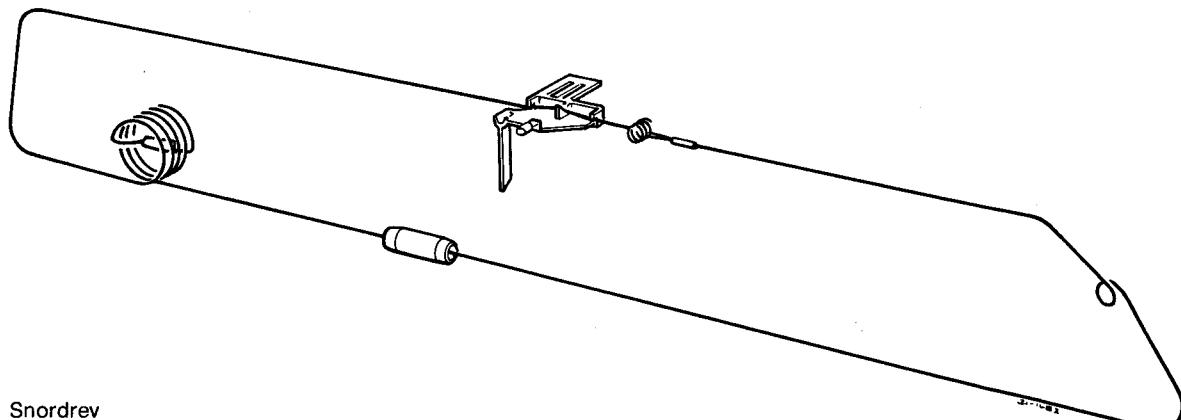


Fig. 1. Snordrev  
Dial cord drive

## Vedlikehold av skyvevendere

### Maintenance of sliding switch

Berør ikke kontaktene med fingrene da dette kan føre til korrosjon. Bruk en myk pensel og ren sprit. Unngå rensevæsker som kan angripe metallet. Påfør et tynt skikt vaselin på kontaktene før venderen settes sammen igjen. Ved bestilling av fjærer, oppgi part nr. for **armen**. Fjærrens styrke vil nemlig være avhengig av armens lengde.

Do not touch the moving contacts with your fingers as this will cause corrosion. When cleaning use only a soft brush and alcohol. Do not use cleaners which contain active substances. Apply a thin layer of vaseline to the moving contacts prior to replacement.

When ordering springs, give the part number of the **plunger** because the spring strength is dependent on the length of the plunger.

#### Petrick - fellesutløser

##### Petrick - interlocked

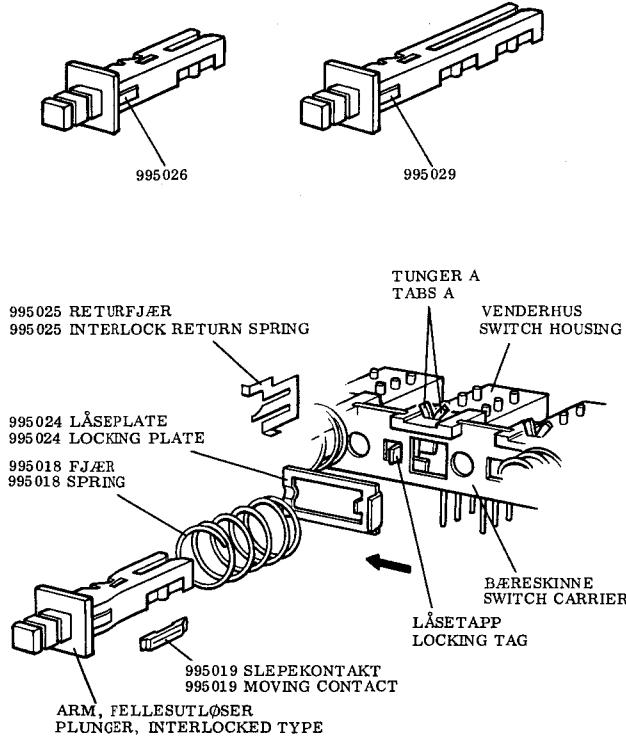


Fig. 2. Petrick, fellesutløser  
Petrick, interlocked

Venderarmen fjernes slik: Trekk låseplaten forover og pass på at de øvrige venderarmene ikke spretter ut når låsetappen skyves i pilens retning. Trekk venderarmen ut av venderhuset så slepekontaktene blir tilgjengelige.

Venderhuset kan fjernes slik: Klem tungene A sammen. Lodd fra ledningene på venderhuset og ta det ut av bæreskinnen. For å komme til returfjæren må først venderhuset tas ut som forklart ovenfor. Returfjæren er ikke alltid plassert ved en bryter at typen fellesutløser.

To remove the plunger, pull the locking plate forward and while the locking tag is moved in the direction of the arrow prevent all the other plungers from jumping out. Retract the plunger from the switch housing to gain access to the moving contacts.

To remove the switch housing, close the two tabs "A", unsolder the associated terminals and remove the switch from the switchcarrier.

Access to the interlock return spring can only be made by following the above instructions to remove the switch housing. It may not be mounted beside the "interlocked" type of switch.

#### Petrick - uavhengig

##### Petrick - independent

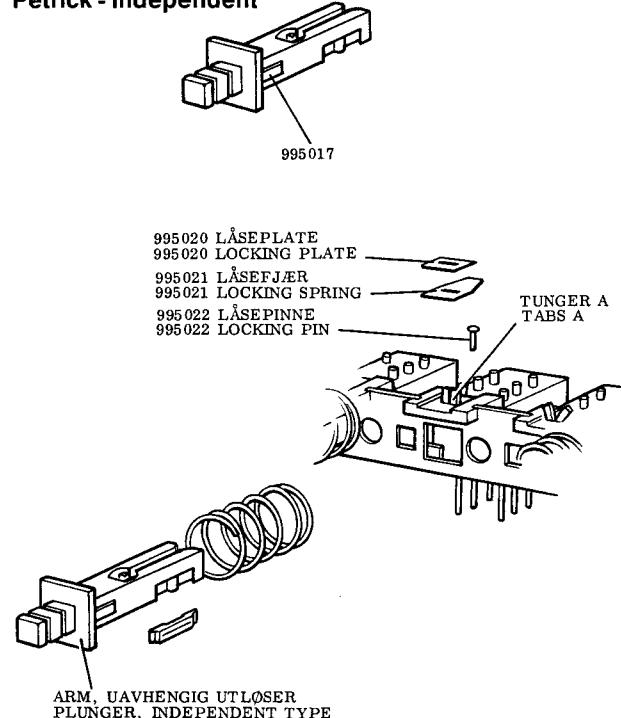


Fig. 3. Petrick, uavhengig  
Petrick, independent

Låsepinnen, låseplaten og låsefjæren kan tas ut ved å klemme sammen de to tungene A. Ellers er demonteringen som beskrevet for vender med fellesutløser.

Når venderen skal settes sammen igjen, bør man trykke alle armene inn samtidig med en plan plate slik at låsepinnen kan settes tilbake på plass.

By closing the two tabs "A", the locking plate, locking spring, and locking pin may be removed. The removal of all other pieces is identical to the "interlocked action" type of switch. When assembling the switch, use a flat surface to push all the plungers in evenly and while they are held, return the locking pin to the locked position.

**Schadow - fellesutløser**  
**Schadow - interlocked**

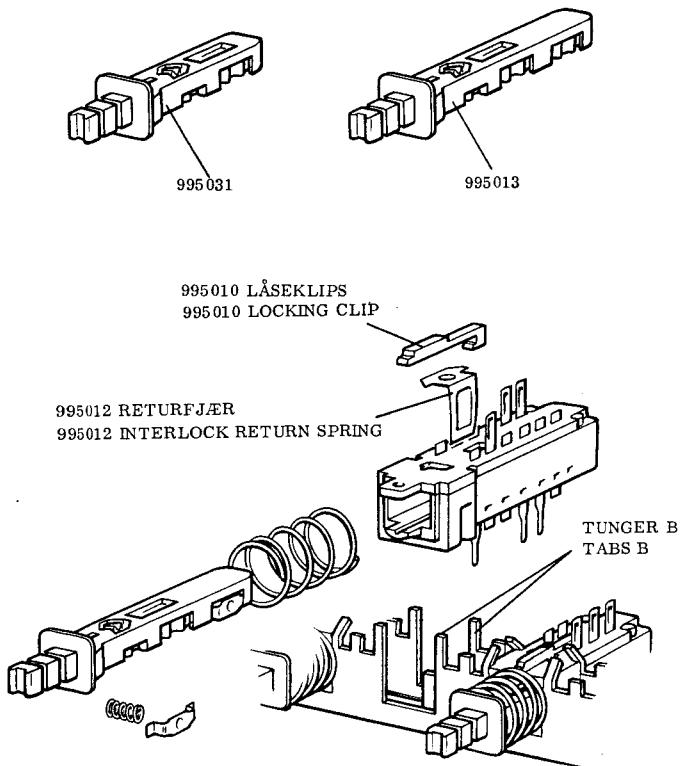


Fig. 4. Schadow, fellesutløser  
 Schadow, interlocked

Når armen skal tas ut, må armen på en av de andre bryterne med fellesutløser trykkes inn. Ellers kan de andre delene tas ut på samme måte som for vender med uavhengig utløser. Returfjæren kan frigjøres ved å rette ut de to tungene B.

Removal of the interlock return spring from the switch carrier can be made by straightening the two tabs "B". When removing the plunger, one of the other interlocked plungers must be depressed. The removal of all other pieces is identical to the "independent action" type of switch.

**Schadow - uavhengig**  
**Schadow - independent**

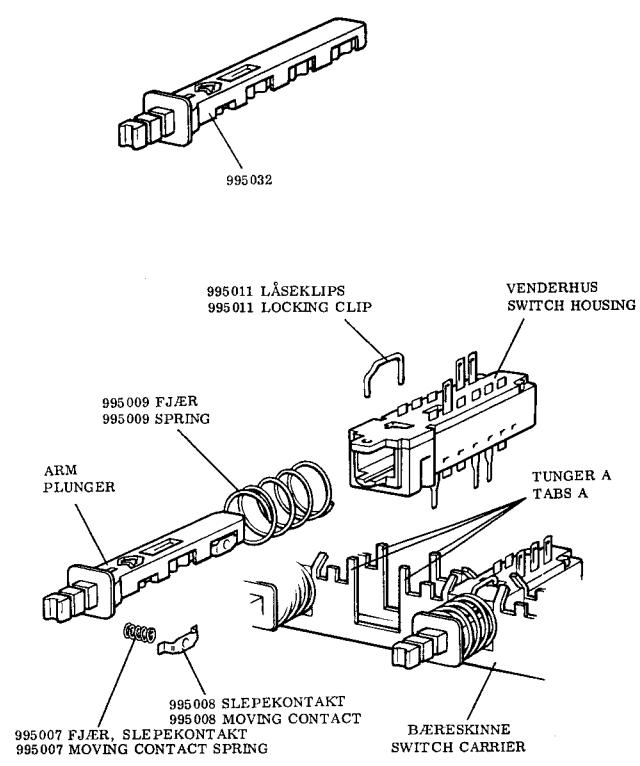


Fig. 5. Schadow, uavhengig  
 Schadow, independent

Trekk fjæren forover og ta ut låseklipset. Trekk armen ut av venderhuset for å komme til slepekontakter med tilhørende fjær.

Venderhuset kan tas ut slik: Rett ut tungene A, lodd fra ledningene og ta ut venderhuset.

To release the plunger, pull the spring forward and remove the locking clip. Retract the plunger from the switch housing to gain access to the moving contacts and the moving contact springs.

To remove the switch housing, straighten tabs "A", unsolder the associated terminals and remove the switch from the switch carrier.

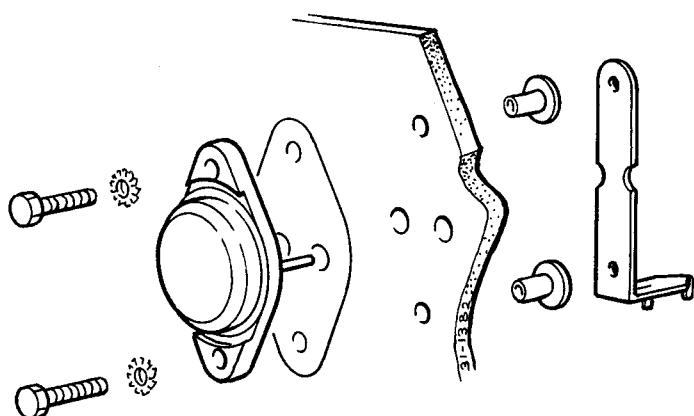


Fig. 6. Montering av slutt-transistor, husk silikonfett på begge sider av glimmerskiven.  
 Power transistor-mounting, dont forget silicone grease on both sides of the mica isolation.

## **Elektriske deler**

Ved bestilling av reservedeler, vennligst oppgi bestillingsnummer og beskrivelse.

## **Electrical parts**

When ordering spare parts, please specify ordering number and description.

Motstander og kondensatorer,  
se sidene 20 – 27.

Resistors and capacitors,  
see pages 20 – 27.

### **Transistorer – Transistors**

Bestillingsnr. Ordering no.	Beskrivelse Description	Alternativer Alternatives
Q101-TR1000/1010	40822	40673 RCA
Q102-TR1000/1010	40823	40673, 3N 200 RCA
Q201-TR1000/1010	BF194	BF195
Q202-TR1000/1010	BF194	BF195
Q203-TR1000/1010	BF194	BF195
Q204-TR1000/1010	BF194	BF195
Q205-TR1000/1010	BF194	BF195
Q206-TR1000/1010	BF194	BF195
Q207-TR1000/1010	BF194	BF195
Q208-TR1000/1010	BF194	BF195
Q250-TR1000/1010	BF195	BF194
Q251-TR1000/1010	BC147B	BC107B
Q252-TR1000/1010	BC147A	BC107A
Q253-TR1000/1010	BC147A	BC107A
Q301-TR1000/1010	BC147A	BC107A
Q401-TR1000/1010	BC149B	BC109B
Q402-TR1000/1010	BC149B	BC109B
Q403-TR1000/1010	BC149B	BC109B
Q404-TR1000/1010	BC149B	BC109B
Q405-TR1000/1010	BD165	
Q406-TR1000/1010	BC148C	BC108C
Q407-TR1000/1010	BC148C	BC108C
Q450-TR1000/1010	BC147B	BC107B
Q451-TR1000/1010	BC149B	BC109B
Q452-TR1010	40822	40673 RCA
Q453-TR1010	BF195	
Q454-TR1010	BF195	
Q501-TR1000/1010	BC149B	BC109, BC413, 2N 6002, 2N 5089
Q502-TR1000/1010	BC149B	BC109, BC413, 2N 6002, 2N 5089
Q503-TR1000/1010	BC149B	BC109, BC413, 2N 6002, 2N 5089
Q504-TR1000/1010	BC149B	BC109, BC413, 2N 6002, 2N 5089
Q505-TR1000/1010	BC149B	BC109, BC413, 2N 6002, 2N 5089
Q506-TR1000/1010	BC149B	BC109, BC413, 2N 6002, 2N 5089
Q580-TR1000/1010	BC149B	BC109, BC413, 2N 6002, 2N 5089
Q581-TR1000/1010	2N 5087	
Q582-TR1000/1010	BC149B	BC109, BC413, 2N 6002, 2N 5089
Q583-TR1000/1010	BC148B	BC109, BC413, 2N 6002, 2N 5089
Q701-TR1000/1010	2N 5087	BC157
Q702-TR1000/1010	MPS U56	
Q703-TR1000/1010	BD135	BD165
Q708-TR1000/1010	MPS U56	
Q709-TR1000/1010	MJ802	
Q710-TR1000/1010	MJ4502	
Q801-TR1000/1010	BC147B	BC107B
Q802-TR1000/1010	BC147A	BC107A
Q803-TR1000/1010	BC147A	BC107A
Q804-TR1000/1010	BC147A	BC107A
Q805-TR1000/1010	BC147A	BC107A
Q806-TR1000/1010	BC147A	BC107A
Q807-TR1000/1010	BC147A	BC107A
Q808-TR1000/1010	BC147A	BC107A
Q809-TR1000/1010	BC147A	BC107A
Q810-TR1000/1010	BC147A	BC107A

**Dioder – Diodes**

Bestillingsnr. Ordering no.	Beskrivelse Description
D201-TR1000/1010	2AA 119
D202-TR1000/1010	2AA 119
D203-TR1000/1010	2AA 119
D250-TR1000/1010	2AA 119
D251-TR1000/1010	2AA 119
D401-TR1000/1010	IN 4148
D402-TR1000/1010	IN 4148
D403-TR1000/1010	4742A Zener 12V
D450-TR1010	2AA 119
D451-TR1010	2AA 119
D452-TR1010	2AA 119
D603-TR1000/1010	IN 4148
D604-TR1000/1010	IN 4148
D701-TR1000/1010	IN 4148
D702-TR1000/1010	IN 4148
D703-TR1000/1010	IN 4148
D704-TR1000/1010	IN 4148
D705-TR1000/1010	IN 4148
D706-TR1000/1010	IN 4148
D707-TR1000/1010	IN 4148
D708-TR1000/1010	IN 4148
D801-TR1000/1010	IN 4148
D802-TR1000/1010	IN 4148
D803-TR1000/1010	IN 4148
D804-TR1000/1010	IN 4148
D805-TR1000/1010	IN 4148
D806-TR1000/1010	IN 4148
D807-TR1000/1010	IN 4148

**Likerettere – Rectifiers**

Bestillingsnr. Ordering no.	Beskrivelse Description
D405-TR1000/1010	B60 C800 SI
D601-TR1000/1010	B80 C2200 SI
D602-TR1000/1010	B80 C2200 SI

**Sikringer – Fuses**

Bestillingsnr. Ordering no.	Beskrivelse Description
282846-TR1000/10	F801 500mA 5x20 mm treg
267417-TR1000/10	F802/3/4 5A 5x20 mm flink

**Elektriske deler, mikrofonforsterker.  
Electrical parts, microphone amplifier.**
**Transistorer – Transistors**

Bestillingsnr. Ordering no.	Beskrivelse Description
Q580-TR1000/10	BC 149B
Q581-TR1000/10	2N 5087
Q582-TR1000/10	BC 149B
Q583-TR1000/10	BC 148B

**Kondensatorer – Capacitors**

Bestillingsnr. Ordering no.	Beskrivelse Description
C580-TR1000/10	10 $\mu$ F
C581-TR1000/10	50 $\mu$ F
C582-TR1000/10	180 pF
C583-TR1000/10	10 $\mu$ F
C584-TR1000/10	68 pF
C585-TR1000/10	0.1 $\mu$ F
C586-TR1000/10	0.1 $\mu$ F
C587-TR1000/10	10 $\mu$ F

**Motstander – Resistors**

Bestillingsnr. Ordering no.	Beskrivelse Description
R580-TR1000/10	68 kohm
R581-TR1000/10	10 ohm
R582-TR1000/10	1.2 kohm
R583-TR1000/10	8.2 kohm
R584-TR1000/10	1 kohm
R585-TR1000/10	100 kohm
R586-TR1000/10	3.3 kohm
R587-TR1000/10	20 kohm Pot.meter
R588-TR1000/10	68 kohm
R589-TR1000/10	220 kohm
R590-TR1000/10	220 kohm
R591-TR1000/10	3.3 kohm
R592-TR1000/10	1 kohm
R593-TR1000/10	25 kohm Pot.meter
R594-TR1000/10	22 kohm

**Potensiometere – Potentiometers**

Bestillingsnr. Ordering no.	Beskrivelse Description
258509-TR1000/10	R241 – AM supression 2,5 Kohm
262703-TR1000/10	R243 – center adj. 10 Kohm
273106-TR1000/10	R256 – stereo switching level 100 Kohm
273106-TR1000/10	R257 – muting level 100 Kohm
273106-TR1000/10	R258 – FM meter sensitivity 100 Kohm
289700-TR1000/10	R402 – FM frquency adj. 25 Kohm
247870-TR1000/10	R403 – FM preset 100 Kohm
247870-TR1000/10	R404 – FM preset 100 Kohm
247870-TR1000/10	R405 – FM preset 100 Kohm
247870-TR1000/10	R406 – FM preset 100 Kohm
247870-TR1000/10	R407 – FM preset 100 Kohm
283867-TR1000/10	R408 – FM tuning 100 Kohm
288019-TR1000/10	R409 – FM preset adj. 2,5 Kohm
281905-TR1000/10	R425 – 25 Kohm
283586-TR1000/10	R426 – 25 Kohm
281905-TR1000/10	R429 – 25 Kohm
283586-TR1000/10	R430 – 25 Kohm
281905-TR1000/10	R433 – 25 Kohm
283586-TR1000/10	R434 – 25 Kohm
263055-TR1000/10	R438 – 1 Kohm
264384-TR1010	R457 – 50 Kohm
264384-TR1010	R479 – AM meter sensitivity 50 Kohm
840004-TR1000/10	R511/512 – volume 2x25 Kohm
840005-TR1000/10	R513/514 – balance 25 Kohm
840545-TR1000/10	R527/528 – treble 2x25 Kohm
840546-TR1000/10	R531/532 – bass 2x50 Kohm
840561-TR1000/10	R587 – mic. volume 20 Kohm
281905-TR1000/10	R593 – signal damping 25 Kohm
260584-TR1000/10	R613 – 25 Kohm
245032-TR1000/10	R710 – 300 Kohm
287652-TR1000/10	R811 – 2,5 Kohm

**Partsliste, modifisert bakpanel (se fig. 31).**
**Parts list, modified rear panel (see fig. 31).**

Bestillingsnr. Ordering no.	Beskrivelse Description	Merknader Notes
208589-TR1000/10	Skrue, høytalerkontakt Screw, speaker connector	4 x 12 mm
217481-TR1000/10	Skrue, skjerm utg.transistor Screw, shield outp.transistor	1/2" nr. 4
218675-TR1000/10	Skrue, ant.kontakter Screw, ant.connector	3/8" nr. 4
262984-TR1000/10	Skrue, bakplate Screw, rear panel	5/8" nr. 6 svart 5/8" no. 6 black
289018-TR1000/10	Skrue, jord, messing Screw, ground, brass	
291245-TR1000/10	Vinkel, skjerm utg.transistor Bracket, shield outp.transistors	
292675-TR1000/10	Skrue, bakplate Screw, rear panel	
840657A-TR1000/10	Plate, bunn Cover, bottom	
993326-TR1000/10	Skinne, bakplate m/høytalerkont. Bracket, speaker w/speaker connectors	
993327-TR1000/10	Braket m/antennekontakter Bracket w/antenna connectors	

over app.nr.  
ca. 1410500  
above serial No.  
app. 1410500

## Mekaniske deler TR1000, TR1010

Ved bestilling av reservedeler, vennligst oppgi bestillingsnummer og beskrivelse.

Ref.nr.	Bestillingsnr.	Beskrivelse	Enhet	Antall		Merknader
				i enhet	totalt	
1		Front	A			
2	840535-TR1000/10	Plate, snortrekk	B	1	1	
3	285649-TR1000/10	Plate, svingsjulsager, stål	C	1	1	
4	200944-TR1000/10	Skrue 1/4" nr. 4.6K	C	2	43	
5	840537A-TR1000/10	Bøssing, lager for snordrev	C	1	1	
6	273645-TR1000/10	Skive, 14x7,4x1,6 mm	C	1	1	
7	285116-TR1000/10	Skive, låseskive 7,4 mm	C	1	1	
8	292810-TR1000/10	Mutter, 7 mm	C	1	1	
9	287330-TR1000/10	Fjær, snordrev	C	1	1	
10	993319-TR1000/10	Drev, snortrekk	D	1	1	
11	208431-TR1000/10	Spennring, 3 mm	D	1	1	
12	840586A-TR1000/10	Trinse, snordrev, nylon	B	1	1	
13	840629-TR1000	Hus, feste for potm.	C	1	1	
	840628-TR1010	Kondensator, dreie				
14	840621-TR1000/10	Plate avst.stykke, nylon	D	1	1	
15	282977-TR1000/10	Skrue 2,6x12 mm	D	3	3	
16	272135-TR1000/10	Hjul, skalasnor, nylon	B	1	1	
17	287501-TR1000/10	Trinse, skalasnor	C	4	4	
18	301661-TR1000/10	Hylse, trinse, aksel	C	4	4	
19	217481-TR1000/10	Skrue 1/2" nr. 4.6K	D	1	15	
20	993308-TR1000/10	Snor, skala, tekstil	D	1	1	
21	993309-TR1000/10	Snor, skala, wire	D	1	1	
22	301072-TR1000/10	Spiral, skalasnor	D	1	1	
23	204112-TR1000/10	Fjær, skalasnor	D	1	1	
24	216720-TR1000/10	Hylse, gummi	D	1	1	
25	840541B-TR1000/10	Viser, skala	D	1	1	
26	277862-TR1000/10	Lampe, skalaviser/LF ind.				
		5V, 115mA	D	1	9	
27	840617-TR1000/10	Fjær, instrument, feste	D	1	1	
28	293830-TR1000/10	Indikator, feltskyrke	D	1	1	
29	284931-TR1000/10	Indikator, senter	D	1	1	
30	214925-TR1000/10	Holder, lampe, indikator	C	2	6	
31	282596-TR1000/10	Lampe, indikator, 6.5V-0.1A	D	2	2	
32	214925-TR1000/10	Holder, lampe, skala	C	2	—	
33	202806-TR1000/10	Lampe, skalalys 6.3V 0.32A	D	2	2	
34	259313-TR1000/10	Skjerm, lampe, skalalys	D	1	1	
35	303255-TR1000/10	Film, FM-stereoindikator	C	1	1	
36	214925-TR1000/10	Holder, lampe, stereolampe	C	1	—	
37	280038-TR1000/10	Lampe, stereoind. 24V 50mA	D	1	1	
38	840618-TR1000/10	Bøyle, feste for ferrittantenne	C	1	1	
39	283422-TR1010	Skrue, 1/4" nr. 4, feste bøyle	D	2	—	
40	256605-TR1010	Ring, gummi for ferrittantenne	D	2	2	
41	286468-TR1010	Kjerne, ferrittantenne, 10x175 mm	D	1	1	
42	204105-TR1000/10	Skive 8,5x3,5x0,7 mm	D	2	2	
43	200944-TR1000/10	Skrue 1/4" nr. 4.6K	D	2	—	
44	840673-TR1000	Skinne, front	B	1	1	
45	840671-TR1010	Skinne, front	B	1	1	
46	283422-TR1000/10	Skrue, front 1/4" nr. 4, svart patinert	C	4	6	
47	300281-TR1000/10	Skjerm, skalalys fotokartong	C	1	1	
48	840674-TR1000	Skinne, lokk	C	1	1	
49	840672-TR1010	Skinne, lokk	B	1	1	
50	840035-TR1000/10	Fjær for frontlokk	C	2	2	
51	840605-TR1000/10	Plate, dekkglass, blått	C	1	1	
52	840037-TR1000/10	Fjær, dekkglass	D	1	1	
	993322-TR1000/10	Plate m/lampe for lyskasse	C	1	1	
	277862-TR1000/10	Lampe, skalaviser/LF ind.				
		5V, 115mA	D	8	—	
53	993321-TR1000/10	Ramme, lyskasse m/film	D	1	1	
54	200944-TR1000/10	Skrue, 1/4" nr. 4.6K	D	2	—	
55	840614-TR1000/10	Fjær, feste av lyskasse	D	2	2	
56	840677-TR1000	Skala FM	C	1	1	
	840633-TR1010	Skala AM/FM				
57	840536A-TR1000/10	Bøyle, lyskasse	B	1	1	
58	840599-TR1000/10	Fjær, feste skala	C	2	2	
59	208444-TR1000/10	Ring, filt for søkerknapp	C	1	1	
60	840596-TR1000/10	Knapp, søker	C	1	1	
61	224515-TR1000/10	Skrue, søkerknapp 3x3 mm	D	1	1	
62	840057-TR1000/10	Lager, svart nylon	C	3	3	
63	840554A-TR1000/10	Knapp, volum, ballanse, høytalerverger	C	3	3	
64	840615-TR1000/10	Lager, potm.aksel, nylon	C	2	2	
65	840551A-TR1000/10	Knapp, bass/disk, indre	C	2	2	
66	840556-TR1000/10	Knapp, bass/disk, ytre	C	2	2	
67	840610-TR1000/10	Knapp, LF-vender	C	8	8	
68	992902-TR1000/10	Knapp, hovedvender	C	14	14	
69	993310-TR1000/10	Knappesett	C			
		senere versjon best.nr. 304082				

## Mechanical parts TR-1000, TR-1010, TR-1020

When ordering spare parts, please specify ordering number and description.

Ref.no.	Ordering no.	Description	Assy	Quantity		Notes
				in assy	total	
1	840535-TR1000/10/20	Front	A	1	1	
2	840535-TR1000/10/20	Plate, dial cord, mounting	B	1	1	
3	285649-TR1000/10/20	Plate, flywheelbearing, steel	C	1	1	
4	200944-TR1000/10/20	Screw 1/4" nr. 4	C	2	43	
5	840537A-TR1000/10/20	Bushing, flywheel, brass	C	1	1	
6	273645-TR1000/10/20	Washer, 14x7,4x1,6 mm	C	1	1	
7	285116-TR1000/10/20	Washer, lock 7,4 mm	C	1	1	
8	292810-TR1000/10/20	Nut. 7 mm	C	1	1	
9	287330-TR1000/10/20	Spring flywheel	C	1	1	
10	993319-TR1000/10/20	Flywheel	D	1	1	
11	208431-TR1000/10/20	Circlip	D	1	1	
12	840586A-TR1000/10/20	Wheel, dial cord, nylon	B	1	1	
13	840629-TR1000	Housing, tuning capacitor	C	1	1	
	840628-TR1010/20	Capacitor, tuning, C450/460				
14	840621-TR1000/10/20	Spacer, nylon	D	1	1	
15	282977-TR1000/10/20	Screw 2,6x 12 mm	D	3	3	
16	272135-TR1000/10/20	Pulley, dial cord black nylon	B	1	1	
17	287501-TR1000/10/20	Wheel, dial cord	C	4	4	
18	301661-TR1000/10/20	Spacer, wheel, dial cord	C	4	4	
19	217481-TR1000/10/20	Screw 1/2" nr. 6	D	1	15	
20	993308-TR1000/10/20	Cord, dial	D	1	1	
21	993309-TR1000/10/20	Cord, dial, wire	D	1	1	
22	301072-TR1000/10/20	Spring, dial cord connector	D	1	1	
23	204112-TR1000/10/20	Spring, dial cord	D	1	1	
24	216720-TR1000/10/20	Tube, rubber	D	1	1	
25	840541B-TR1000/10/20	Pointer, dial	D	1	1	
26	277862-TR1000/10/20	Lamp, dial pointer/AF-ind. 5V, 115mA	D	1	9	</td

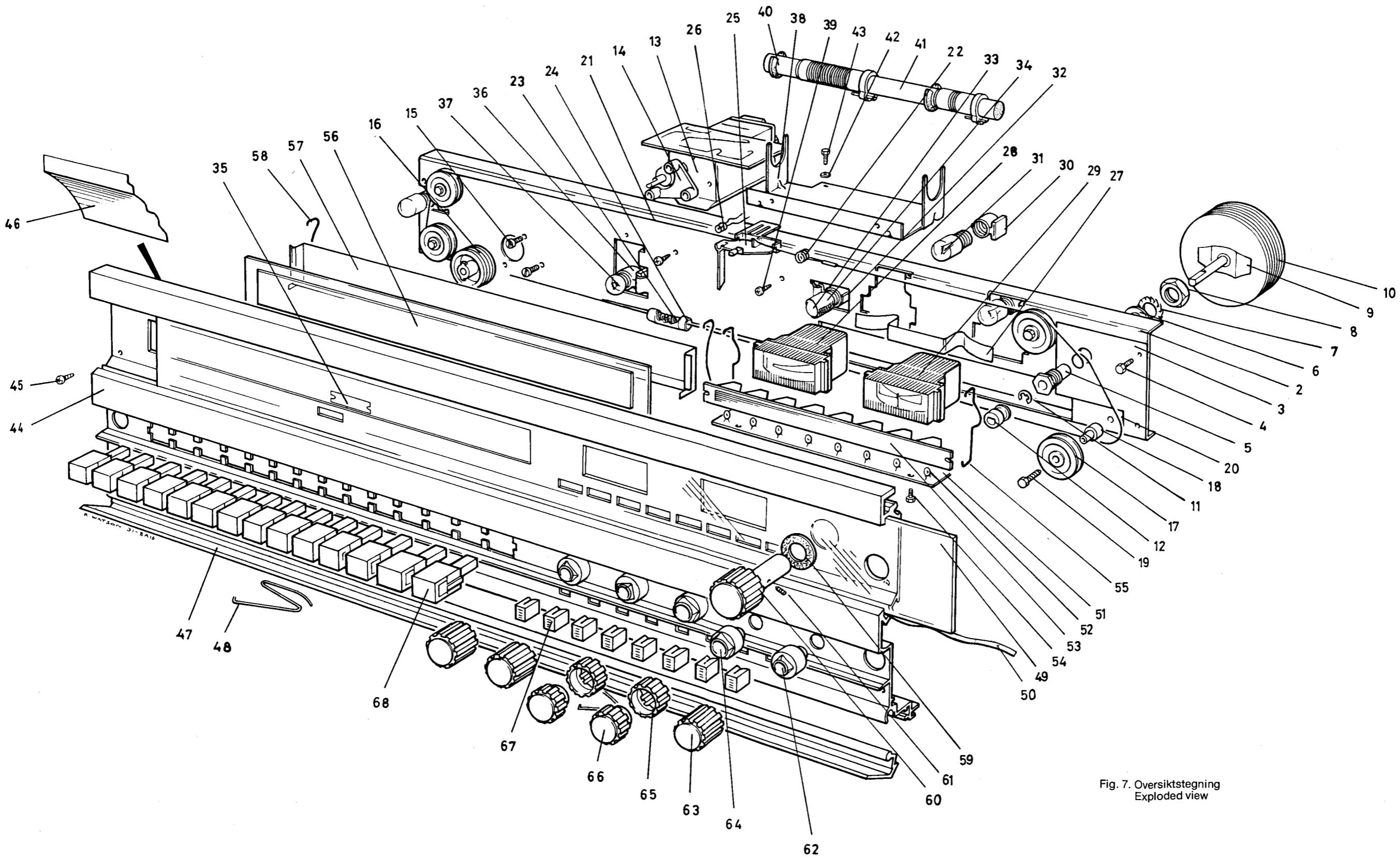


Fig. 7. Oversiktstegning  
Exploded view

## Mekaniske deler TR-1000, TR-1010

Ved bestilling av reservedeler, vennligst oppgi bestillingsnummer og beskrivelse.

Ref. nr.	Bestillingsnr.	Beskrivelse	Enhet	Antall		Merknader
				i enhet	totalt	
1	840534-TR1000/10	Vinkel, sjassi	A	1	1	
2	272911-TR1000/10	Kontakt, antenn 75 ohm.	B	1	1	
3	250548-TR1000/10	Kontakt, antenn 300 ohm.	B	1	1	
235643-TR1000/10	Plugg, FM-antenne					
239357-TR1000/10	Plugg, AM-antenne					
4	203250-TR1000/10	Ledning, nett m/støpsel	B	1	1	
255276-TR1000/10	Ledning, nett m/støpsel, Tyskl.					
5	223387A-TR1000/10	Klammer, nettledning, plast	B	1	1	
6	232123-TR1000/10	Klammer, nettledning, metall	C	1	1	
7	217481-TR1000/10	Skrue 1/2" nr. 4	C	1	—	
8	840609-TR1000/10	Nett-trafo	B	1	1	
9	840581-TR1000/10	Vender, høytaler	B	1	1	
10	840601-TR1000/10	Plate, feste for vender, eff.ind.	B	1	1	
11	200944-TR1000/10	Skrue, 1/4" nr. 4. 6K	C	2	—	
12	281970-TR1000/10	Vender, eff.ind.	C	1	1	
13	200944-TR1000/10	Skrue 1/4" nr. 4	D	2	—	
14	840600-TR1000/10	Aksel, høytalerelvenger	D	1	1	
15	993304-TR1000/10	Plate, sikring	B	1	1	
16	209731-TR1000/10	Tube, gummi	C	1	2	
17	277509-TR1000/10	Holder, sikring	C	8	8	
18	267417-TR1000/10	Sikring, F802/803/804, 5A, flink	D	3	3	
28	282846-TR1000/10	Sikring, F801, 1,25A, treg	D	1	1	
19	304793-TR1000/10	Plate, presspan	B	2	2	
20	840585-TR1000/10	Ribbe, kjølring, utg. transistor	A	1	2	
21	217481-TR1000/10	Skrue 1/2" nr. 4. 6K	B	4	—	
22	302056-TR1000/10	Vinkel, skjerm, utg. transistor	B	2	2	
23	218675-TR1000/10	Skrue 3/8" nr. 4. 6K	C	1	15	
24	993303-TR1000/10	Plate, utg. forst.	B	1	2	
25	840543-TR1000/10	Vinkel, utg. trans.	C	2	4	
26	274715-TR1000/10	Brakett, transistorkjøler	C	4	8	
27	Q709-TR1000/10	Transistor, utg. forst.	C	1	2	
Q710-TR1000/10	Transistor, utg. forst.					
28	217481-TR1000/10	Skrue 1/2" nr. 4. 6K	D	2	—	
29	231878-TR1000/10	Låseskive, 3,2 mm.	D	2	8	
30	840641-TR1000/10	Gjennomføring, plast	D	2	4	
31	840626A-TR1000/10	Fjær for transistor Q703	B	1	2	
32	218675-TR1000/10	Skrue 3/8" nr. 4. 6K	C	1	—	
33	284104-TR1000/10	Bryter, termostat, LF	C	1	2	
34	840592-TR1000/10	Bøyle, høytalerkontakt	A	1	1	
35	200944-TR1000/10	Skrue 1/4" nr. 4. 6K	B	1	—	
36	993320-TR1000/10	Kontakt, høytaler	B	4	4	
37	289018-TR1000/10	Skrue, høytalerkontakt	C	2	9	
38	840657-TR1000/10	Plate, bunn	A	1	1	
39	257575-TR1000/10	Knott, gummifot	B	4	4	
40	227776-TR1000/10	Skive, kontakt jord.	B	1	1	
41	289018-TR1000/10	Skrue, jording	B	1	—	
42	993302-TR1000/10	Støtte, transformator	B	1	1	
43	283773-TR1000/10	Plate, forsterker	A	1	1	
44	268832-TR1000/10	Kontakt, phono	B	10	10	
45	840603-TR1000/10	Kontakt, 5 pin DIN	B	3	3	
46	268832-TR1000/10	Skinne, topp, bak	A	1	1	
47	840532-TR1000/10	Plate, sjassi, venstre	A	1	1	
48	840533-TR1000/10	Plate, sjassi, høyre	A	1	1	
49	200944-TR1000/10	Skrue 1/4" nr. 4. 6K	B	4	—	
50	991605-TR1000/10	Kontakt, hodetelefon	B	1	2	
51	993305-TR1000/10	Plate, likeretter	A	1	1	
52	209731-TR1000/10	Tube, gummi	B	1	—	
53	840620-TR1000/10	Hylse, el.kond., plast	B	4	4	
54	301962-TR1000/10	Skive, el.kond., skumplast	C	1	4	
55	993307-TR1000/10	Plate, tonekontroll	A	1	1	
56	840508-TR1000/10	Plate, tonekontroll	B	1	1	
57	840608-TR1000/10	Vender, LF	B	1	1	
58	993306-TR1000	Bøyle, feste for potm.	B	1	1	
993316-TR1010	Plate, FM-vender, kompl.					
8061616-TR1000/10	Plate FM-vender, kompl.					
60	271417-TR1010	Knapp, TAPE 1, TAPE 2, PHONO	B	3	3	
61	214925-TR1000/10	Holder, transistor	B	1	1	
62	269406-TR1000/10	Holder, sikringslampe	B	1	—	
63	214925-TR1000/10	Lampe, sikring, 12V, 3W	C	1	1	
64	840643-TR1000/10	Holder, vender, støtte	B	1	1	
65	840563A-TR1000/10	Vender, FM	C	1	1	
66	840501-TR1000/10	Vender, nett	B	1	1	
67	993301-TR1000/10	Plate HF, komplett u/FM-sats	A	1	1	
68	840558-TR1000/10	Plate, støtte, MF-plate	B	1	1	
69	262631-TR1000/10	Plint, stocko kontakt	B	14	81	
70	266058-TR1000/10	Fjær, stocko kontakt	C	14	81	
71	262229-TR1000/10	Plate, bunn, FM-sats	B	1	1	
72	993300-TR1000/10	FM-tuner, komplett	B	1	1	

\* Ikke reservedel

## Mechanical parts TR-1000, TR-1010, TR-1020

When ordering spare parts, please specify ordering number and description.

Ref. no.	Ordering no.	Description	Assy	Quantity		Notes
				in assy	total	
1	840534-TR1000/10/20	Plate angular, chassis	A	1	1	
2	272911-TR-1000/10/20	Contact, antenna 75 ohm.	B	1	1	
3	250548-TR1000/10/20	Contact, antenna 300 ohm.	B	1	1	
235643-TR1000/10/20	Plug, FM-antenna					
239357-TR1000/10/20	Plug, FM-antenna					
4	203250-TR1000/10	Mains cable w/plug 220 cm	B	1	1	
255276-TR1000/10	Mains cable w/plug for Germany					
5	223387A-TR1000/10	Clamp, mains cable	B	1	1	
6	232123-TR1000/10	Clamp, mains cable, metal	C	1	1	
7	217481-TR1000/10/20	Screw 1/2" no. 4	C	1	—	
8	840609-TR1000/10/20	Transformer, mains	B	1	1	
9	840581-TR1000/10/20	Selector, loudspeaker	B	1	1	
10	840601-TR1000/10/20	Bracket, speaker selector	B	1	1	
11	200944-TR1000/10/20	Screw, 1/4" no. 4. 6K	C	2	—	
12	281970-TR1000/10/20	Switch, power meter	C	1	1	
13	200944-TR1000/10/20	Screw 1/4" no. 4. 6K	D	2	—	
14	840600-TR1000/10/20	Shaft, loudspeaker selector	D	1	1	
15	993304-TR1000/10/20	Board, fuse complete	B	1	1	
16	209731-TR1000/10	Tube, rubber	C	1	2	
17	277509-TR1000/10	Holder, for fuse	C	8	8	
18	267417-TR1000/10	Fuse, F802/803/804, 5A, fast	D	3	3	
28	282846-TR1000/10	Fuse, F801, 1.25A, slow	D	1	1	
19	304793-TR1000/10/20	Board, presspan	B	2	2	
20	840585-TR1000/10/20	Heatsink, output transistors	A			

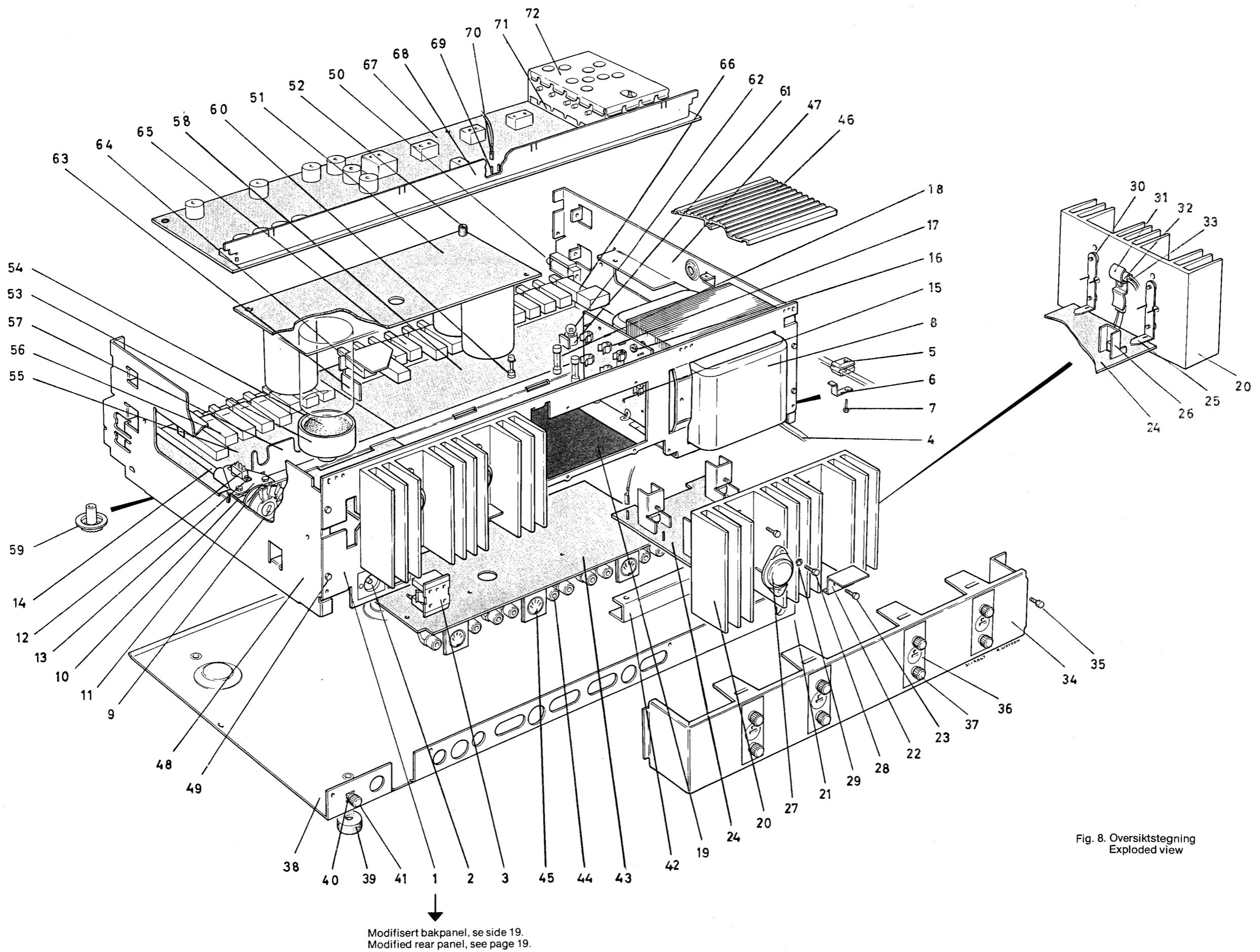


Fig. 8. Oversiktstegning  
Exploded view

Trimmeprosedyre for stereo-dekoder TR 1000 – TR 1010  
Alignment procedure, stereo-dekoder TR 1000 – TR 1010

Justering Adjustment	Generator	Tilkopling oscilloskop Oscilloscope connected to	Justér Adjust	Justeres til Reading	Merknader Notes
SCA-filter	67 kHz dev. ca. 60 kHz*	M10	C811	Minimum	Kun for USA-modeller US model only
114 kHz filter	114 kHz dev. ca. 60 kHz*	M9	L802	Minimum	
19 kHz kretser 19 kHz circuits	19 kHz dev. 7,5 kHz	M801	L804 L806	Maximum	
38 kHz kretser 38 kHz circuits	19 kHz dev. 7,5 kHz	M 801 (collector Q806)	L807	Maximum	Drei R256 helt med urviseren før denne justering. Turn R256 fully clockwise before this adjustment.
Overhøring fra høyre til venstre kanal Crosstalk, right to left channel	Høyre (Right) 1 kHz dev.: 30-40 kHz og (and) 19 kHz dev.: 7,5 kHz	Venstre diodeuttag Left diode output	L806	Minimum	
Overhøring fra venstre til høyre kanal Crosstalk, left to right channel	Venstre (Left) 1 kHz, dev.: 30-40 kHz og (and) 19 kHz, dev.: 7,5 kHz	Høyre diodeuttag Right diode output	R811	Minimum	Når denne justeringen er utført, gjenta foregående trinn. After this adjustment, repeat the preceding procedure.
19 kHz filter	19 kHz, dev. 7,5 kHz	Høyre og venstre diodeuttag Right and left diode output	L810 L811	Minimum	For optimal justering må et selektivt voltmeter benyttes. Hvis dette ikke er tilgjengelig, tilføres 19 kHz fra en LF-generator til transistoren foran filteret. A selective voltmeter should be used for an optimal alignment. If this is not available, a 19 kHz signal from an audio generator should be applied to the transistor preceding the filter.
Mono/stereo omkoplingsnivå Mono/stereo switching level	19 kHz, dev. 7,5 kHz Ant. signal 20-30 $\mu$ V/300 ohm		R256	Drei sakte med urviseren til stereo- indikatoren tennes Turn slowly clockwise until the lamp just lights	Drei R 256 helt mot urviseren før denne justering. Turn R256 fully anticlockwise before this adjustment.

\* Kjernene i L801, L803, L808 og L809 settes i plan med øvre kant på spoleformen.

\* Adjust the cores of L801, L803, L808 and L809 to be level with the top of the coil former.

Trimprosedyre for modifisert dekoder med integrert krets, se side 19.  
Alignment procedure for modified decoder with integrated circuit, see page 19.

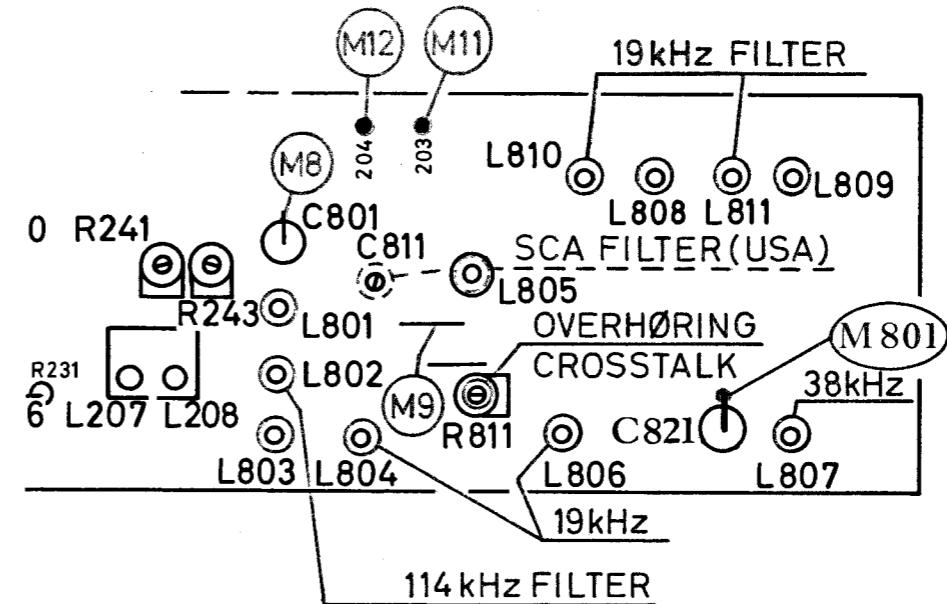


Fig. 9. Trimmpunkter, dekoder  
Test-and alignment points, decoder

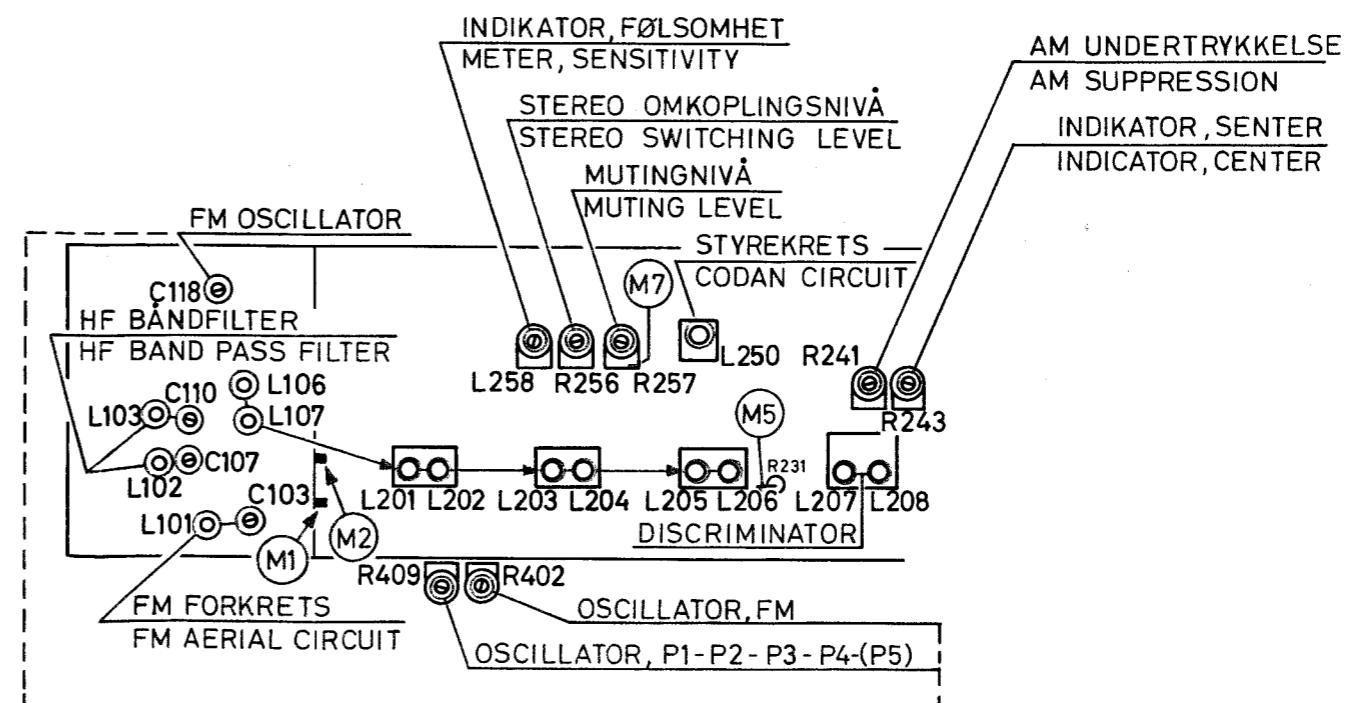
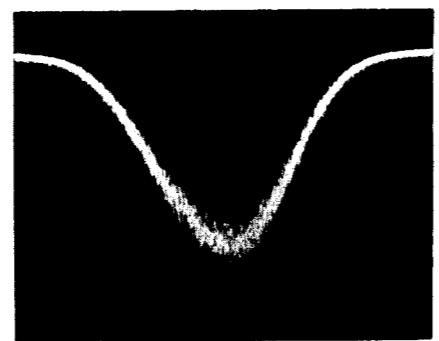
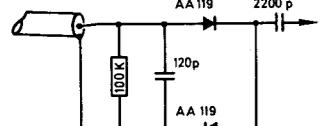


Fig. 10. Trimmpunkter, FM-delen  
Test-and alignment points, FM-section

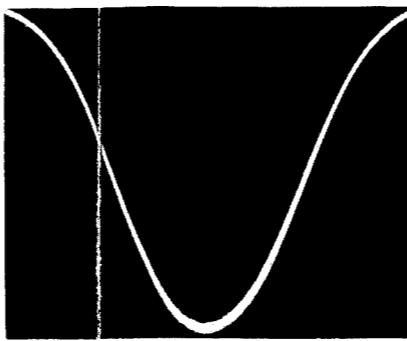
Step	Trimmerekkefølge Alignment procedure	Mottaker Receiver	Generator			Oscilloskop Oscilloscope	Kretser Circuits	Merknader Remarks	Oscillogrammer Oscillogrammes	Data for oscillogrammene Specifications for the oscillographs.
			Frekvens Frequency	Frekvens Frequency	Deviasjon Deviation	Tilkoplet Applied				
1	FM-oscillator*							AFC-knapp inntrykket AFC-button depressed.		
1a	25V for varicap						R438 (fig. 17)	Meter tilkoplet (connected to) M13 Justér til 25V DC. Adjust to 25V DC reading.		
1b	FM-osc. (FM)	90 MHz 105 MHz	90 MHz 105 MHz	± 22,5 kHz	M1	M5 via diodeprobe	R 402 (fig. 17) C118	Check 90 - 95 - 100 - 105 MHz.		
1c	FM-preset (P1)	87,5 MHz 105 MHz	87,5 MHz 105 MHz	± 22,5 kHz	M1	M5 via diodeprobe	R409 (fig. 17)	Check P2 - P3 - P4 - (P5)		
2	Forkrets Aerial circuit	90 MHz 105 MHz	90 MHz 105 MHz	± 200 kHz	M1	M5 via diodeprobe	L101 - L102 - L103 C103 - C107 - C110	Justeres til max. kurvehøyde. Adjust for max. curve height.	A Selektivitet FM Selectivity FM	Signal: $U_{in} = 5\mu V/75\Omega$ , $f = 90$ MHz, dev. = ± 200kHz tilført (applied) M1 via ant. plug. Oscilloscope: Vert.: 50 mV/div. Hor.: 40 kHz/div. tilkoplet (connected to) M5 via diodeprobe.
3	4. FM-MF 3. FM-IF 2. 10,7 MHz 1. 10,7 MHz	90 MHz	10,7 MHz 90 MHz	± 200 kHz	M2 via 0,1 $\mu$ F M1	M5 via diodeprobe	L205 - L206 L203 - L204 L201 - L202 L106 - L107	Justér til max. kurvehøyde og symmetri om 10,7 MHz beat. Adjust for max. curve height and symmetry around a 10,7 MHz beat.	B FM-MF kurve FM-IF curve	Signal: $U_{in} = 70\mu V/75\Omega$ , $f = 10,7$ MHz, dev. = ± 200 kHz tilført (applied) M2 via 0,1 $\mu$ F. Oscilloscope: Vert.: 50 mV/div. Hor.: 40 kHz/div, tilkoplet (connected to) M5 via diodeprobe.
4	Diskriminatør Discriminator	90 MHz	90 MHz	± 200 kHz	M1	M6	L207 - L208	L207 justeres til max. kurvehøyde. L208 justeres til rettest mulig kurve. Adjust L207 for max. curve height. Adjust L208 for best linearity of discriminator curve.	C Diskriminatør Discriminator	Signal: $U_{in} = 3\mu V/75\Omega$ , $f = 90$ MHz, dev. = ± 200 kHz tilført (applied) M1 via ant. plug. Oscilloscope: Vert.: 0,2V/div. Hor.: 40 kHz/div. tilkoplet (connected to) M6.
5	Styrekretser Codan circuits	90 MHz	90 MHz	umod. unmod.	M1	M7	L250	Justeres til max. DC-spennin over C254. Adjust for max. DC-voltage across C254.		
6	Indikator (feltstyrke) Tuning meter	90 MHz	90 MHz	± 200 kHz	M1		R258	Juster R258 til max. utslag på indikatoren ved signalstyrke ca. 1mV. Adjust R258 for max. meter reading at a signal voltage of about 1mV.		
7	AFC	90 MHz	90 MHz	± 80 kHz	M1	M5 via diodeprobe	R243	Kurven skal ikke flytte seg på skopet når AFC-knappen slippes opp. The curve should remain stationary when the AFC-button is released.		
8	AM-undertrykkelse AM-rejection	90 MHz	90 MHz	± 80 kHz $m_{AM} = 50\%$ , 400 Hz	M1	M6	R241	Justér til symmetri rundt 10,7 MHz. Hvis etterjustering er nødvendig, repetér step 4, 5, 6 og 7. Adjust for symmetry around 10,7 MHz. If necessary, repeat steps 4, 5, 6 and 7.	D	Signal: $U_{in} = 1,5 \mu V/75\Omega$ , $f = 90$ MHz, dev. = ± 100 kHz, $m_{AM} = 50\%$ , 400 Hz tilført (applied) M1 via ant. plug. Oscilloscope: Vert.: 0,2 V/div. Hor.: 20 kHz/div, tilkoplet (connected to) M6.
8a	Senterindikator Center tuning meter	90 MHz	90 MHz	± 80 kHz $m_{AM} = 50\%$ , 50 Hz	M1		R243	Justér senterinnstilling på indikatoren. Adjust for center position of the pointer.		
9	Muting	90 MHz	90 MHz 5 $\mu$ V/75 $\Omega$	± 22,5 kHz	M1		R257	Justér til åpning for signal. Adjust for signal passing limit.		

\* Hvis kretsene er helt ute av trim, start prosedyren med en grovjustering av FM-MF.

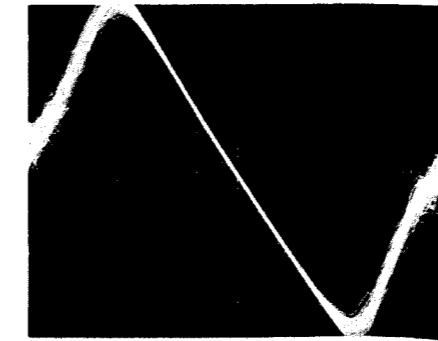
\* If the IF-circuits are completely detuned, start the procedure with a rough alignment of the FM-IF circuits.



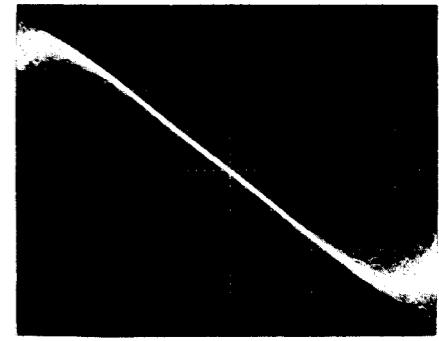
A



B



C



D

Fig. 11. Diodeprobe

AM – trimmeprosedyre TR-1010  
AM – alignment procedure TR-1010

Trimmerekkefølge Alignment procedure	Mottaker Receiver	Generator			Outputmeter/ oscilloscope Tilkoplet Connected to	Kretser Circuits	Avlesning Reading	Oscillator- spennin Oscillator voltage	Anmerkninger Notes
		Frekvens Frequency	Frekvens Frequency	Modulasjon Modulation					
Arbeidspunkt Q 452 Operating point Q 452					M19	R457	2,2 V		Benytt et nøyaktig rørvoltmeter. Use a VTVM of adequate accuracy.
AM – MF AM – IF 455 kHz	3. MF (IF) 2. MF (IF) 1. MF (IF)	1400 kHz	455 kHz	30%	M17 via M16 0, 1 $\mu$ F M15 fig. 15	M18	L409 L408 - L407 L406 - L405	Max. output	Ved trimmning av AM - MF bør en benytte et marker- signal på 455 kHz for å få angitt riktig senter. Use a marker (455 kHz) to obtain correct centre frequency when aligning AM - IF.
455 kHz sperre (trap)	1400 kHz	455 kHz	30%	M14 via S.K.A. (fig. 16)	M18	L403 - L404	Min. output		
Oscillator	600 kHz 1400 kHz	600 kHz 1400 kHz	30%	M14 via S.K.A. (fig. 16)	M18	L401 C452	Null gjennomgang ved interferens Adjust to beat frequency	Gate 2 Q452: 1 volt	Benytt en kalibrert signalgenerator, dessuten et markersignal på 455 kHz for å unngå at forkretsene skal influere på trimmingen. Use a calibrated signal generator, and further a marker (455 kHz) to avoid the alignment being influenced by the antenna circuit.
Forkrets Antenna circuit	600 kHz 1400 kHz	600 kHz 1400 kHz	30%	M14 via S.K.A. (fig. 16)	M18	L410 C457	Max. output		
Forkrets, ferritt ant. Antenna circuit, ferrite	600 kHz 1400 kHz	600 kHz 1400 kHz	30%		M18	L402 C457	Max. output		Signalet tilføres via rammeantenne. Apply the signal via a frame aerial.
Indikator Meter	1400 kHz	1400 kHz	30%	M14 via S.K.A. (fig. 16)		R479	Max. utslag på indikator Max. meter reading		Signalspenning ca. 100 m V. Signal voltage approx. 100 m V.

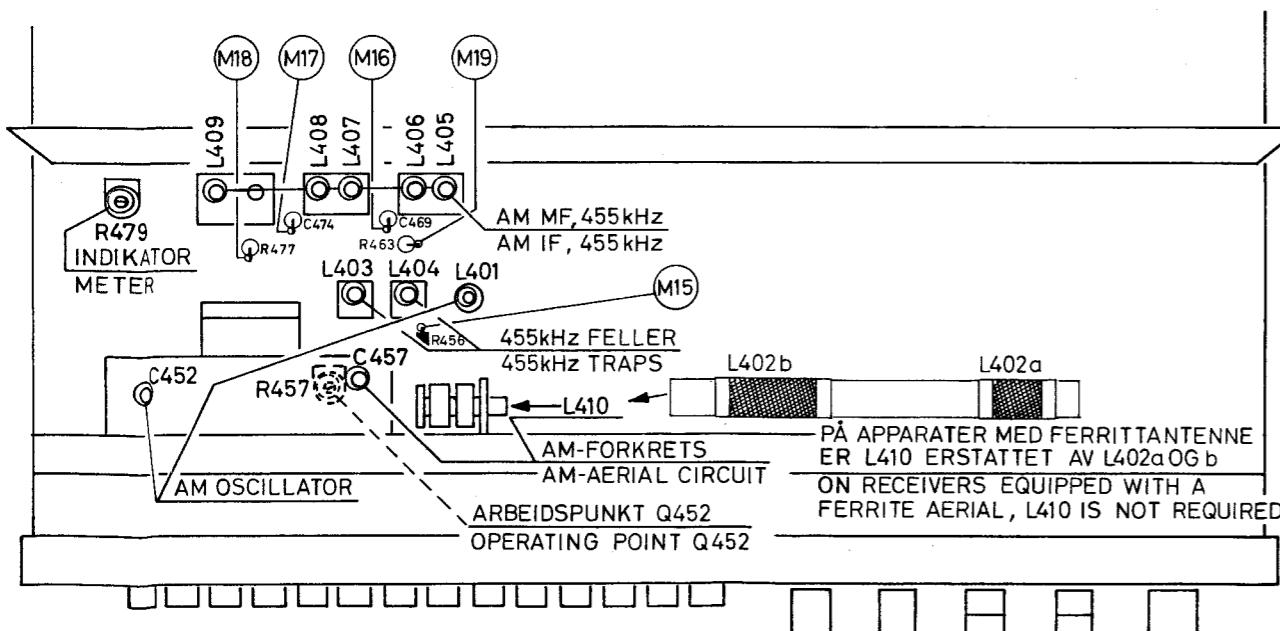


Fig. 12. Trimmepunkter, AM-delen  
Test-and alignment points, AM-section.

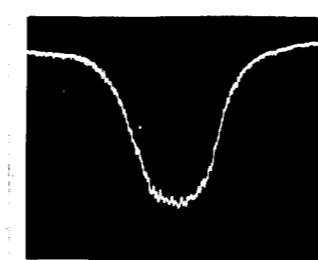


Fig. 13. MB-MW  
**Signal:**  $U_{in} = 100\mu V$  via wobbler/S.K.A. (fig. 15/16) tilført (applied) M14.  
**Oscilloscope:** Vert.: 200 mV/div.  
Hor.: 2 kHz/div.

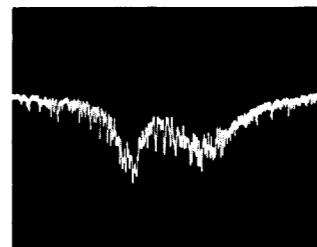


Fig. 14. 455 kHz felle (trap).  
**Signal:**  $U_{in} = 200 mV$  via wobbler/S.K.A. (fig. 15/16) tilført (applied) M14.  
**Oscilloscope:** Vert.: 50 mV/div.  
Hor.: 2 kHz/div.

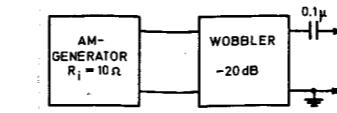


Fig. 15.  
Signalgenerator og wobbler for AM-trimming med  
oscilloskop.  
Signal generator and wobbler for AM-alignment with  
oscilloskop.

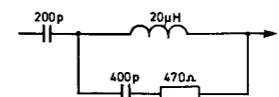
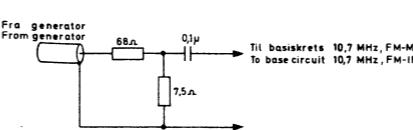
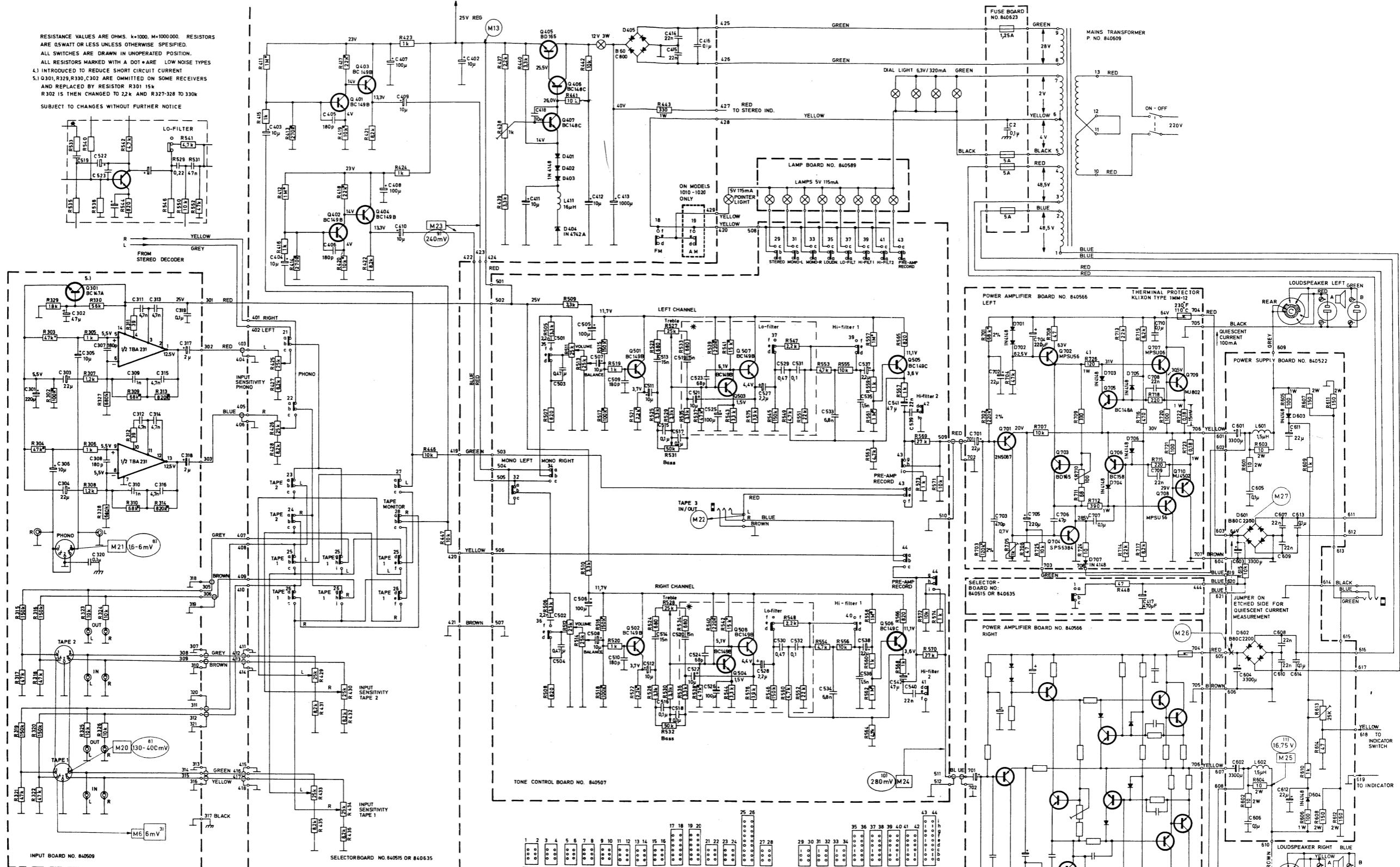


Fig. 16.  
Standard kunstantenne S.K.A. For LB og MB kan  
200 pF benyttes som S.K.A. For KB kan 470  $\Omega$  benyttes.  
Dummy antenna (S.K.A.) For LW and MW, 200 pF  
may be used as S.K.A. and for SW 470  $\Omega$ .





**Merk!** HF-målinger refererer til spenningen på TAPE-utgang (M6).  
**LF-målinger** refererer til spenningen på høytalerutgang (M25).  
**Note!** RF-measurements are referred to the voltage at TAPE output (M6).  
**AF-measurements** are referred to the voltage at SPEAKER output (M25).

Fig. 18. Skjema, LF-delen.  
Circuit diagram, AF-section.

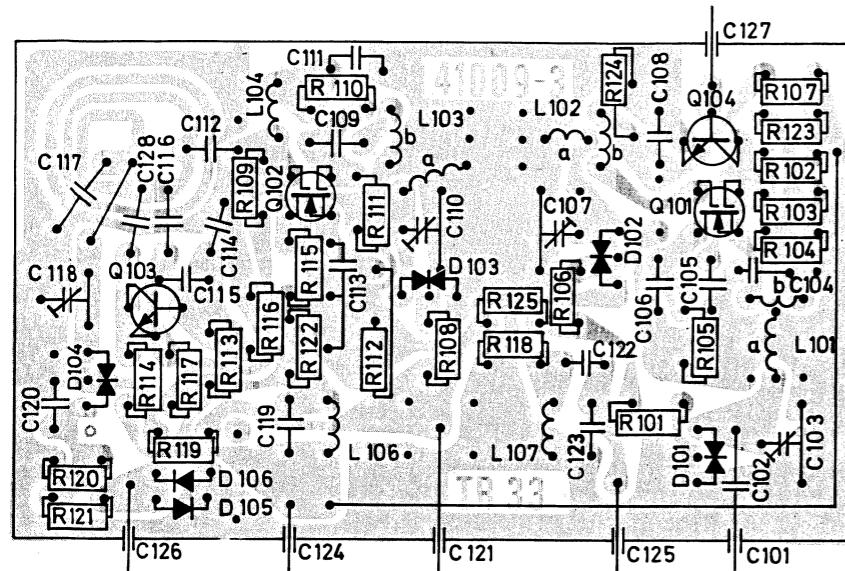


Fig. 19. FM-tunerplate.  
FM-tuner board.

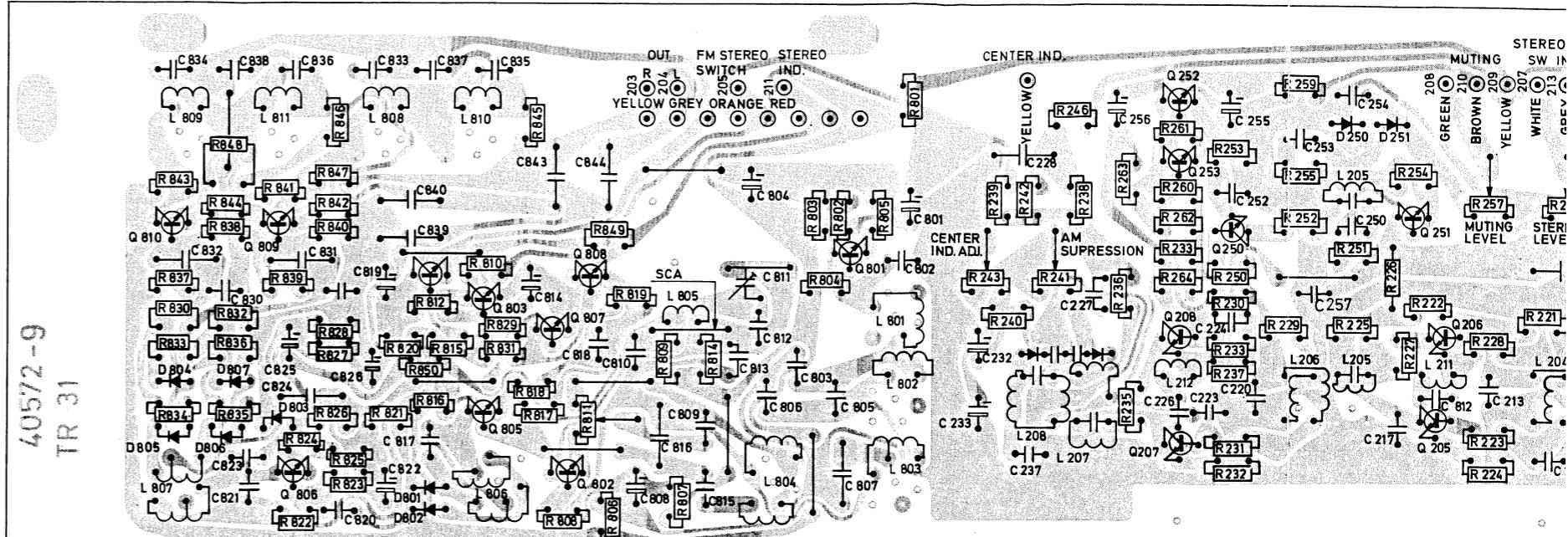


Fig. 20. FM - MF plate  
FM - IF board.

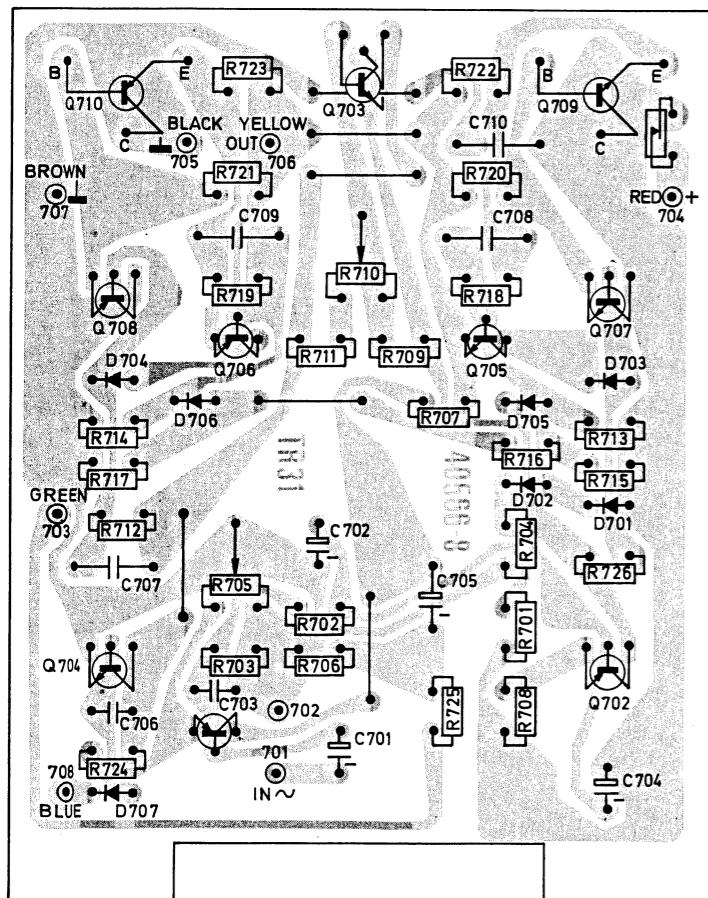


Fig. 21. Sluttforsterkerplate.  
Power amplifier board

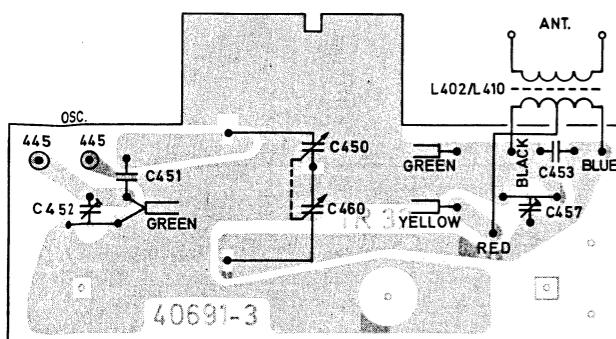


Fig. 22. AM-forkretsplate (TR-1010).  
AM-antenna circuit board (TR-1010).

Ekstra forsterkertrinn med Q507 og Q508  
innført fra serienr. 1400860.

The amplifier stage Q507/Q508 is introduced above serial no. 1400860.

Komponentene innenfor den stippled rammen representerer mikrofonforsterkeren, se side 18.

The components inside the dotted frame represents the microphone amplifier, see page 18.

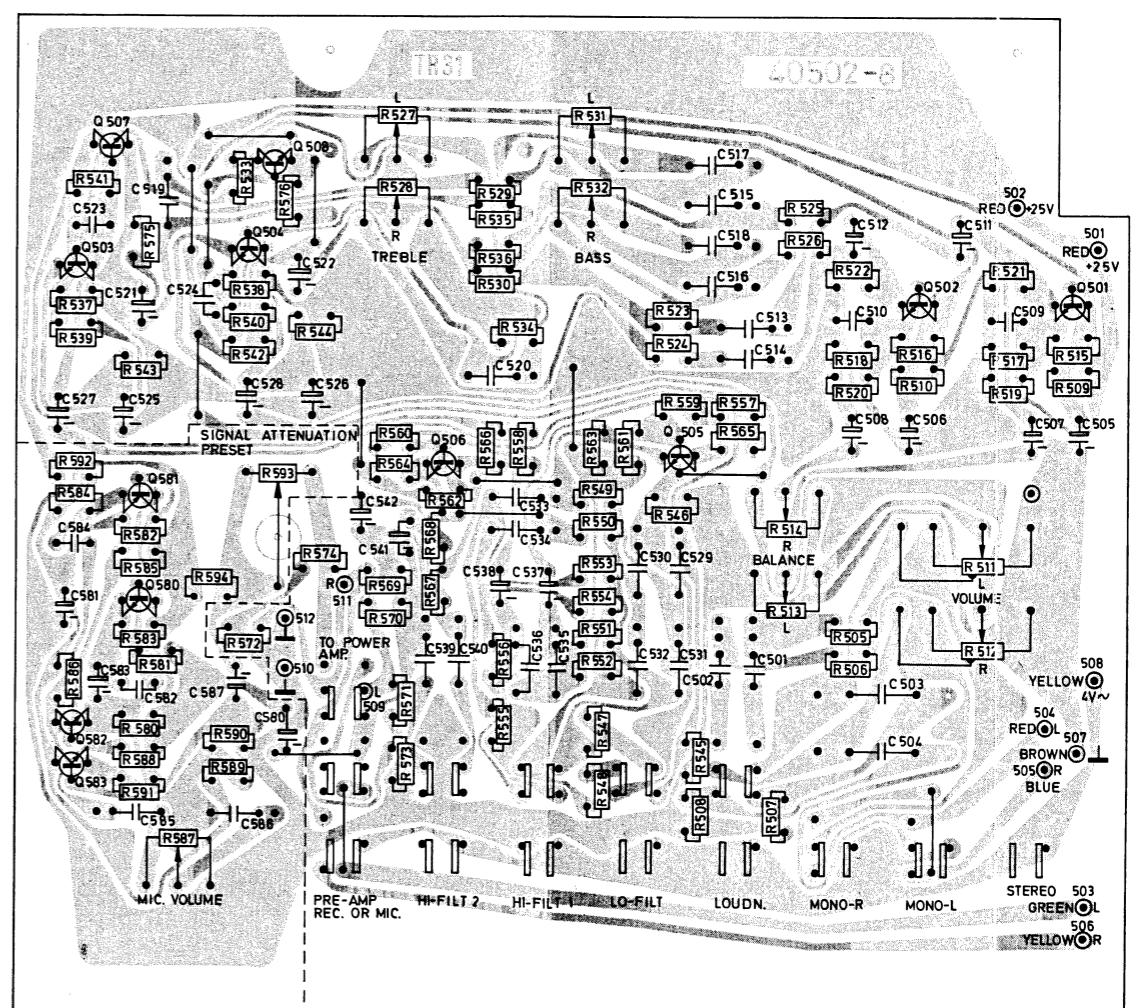


Fig. 23. Forsterkerplate.  
Preamplifier board.

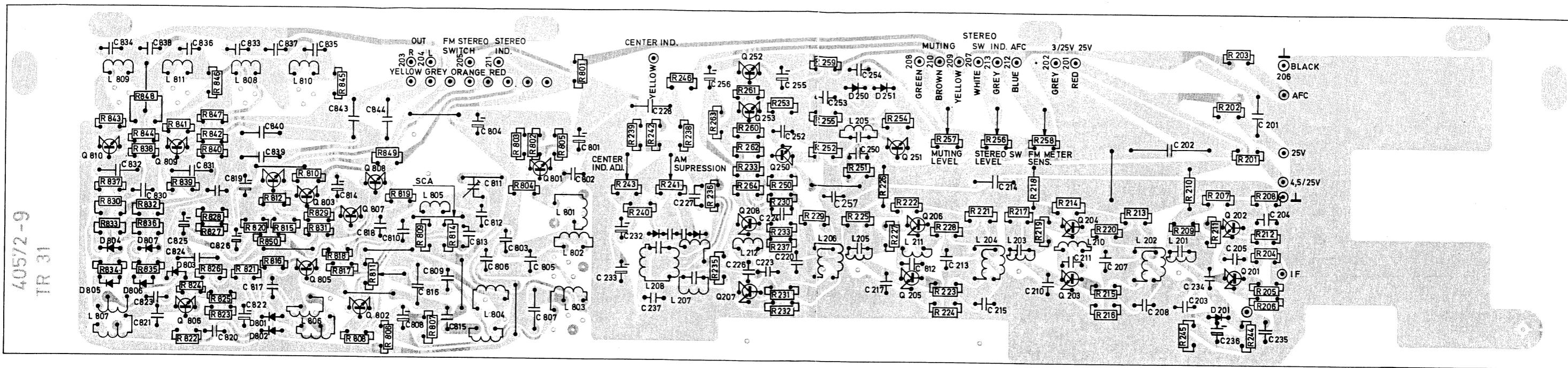


Fig. 20. FM - MF plate.  
FM - IF board.

Ekstra forsterkertrinn med Q507 og Q508 innført fra serienr. 1400860.

The amplifier stage Q507/Q508 is introduced above serial no. 1400860.

Komponentene innenfor den stippled rammen representerer mikrofonforsterkeren, se side 18

The components inside the dotted frame represents the microphone amplifier, see page 18.

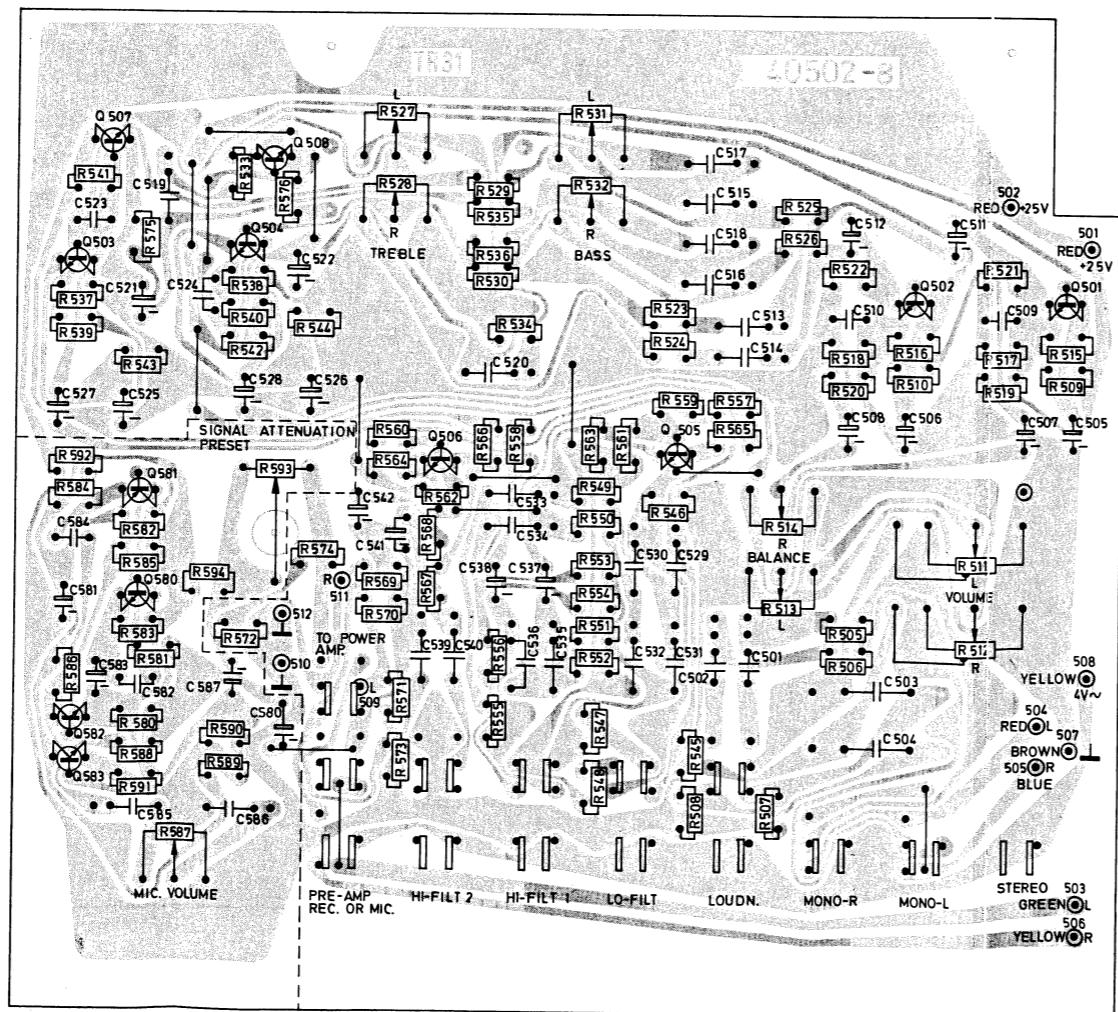


Fig. 23. Forsterkerplate.  
Preamplifier board.

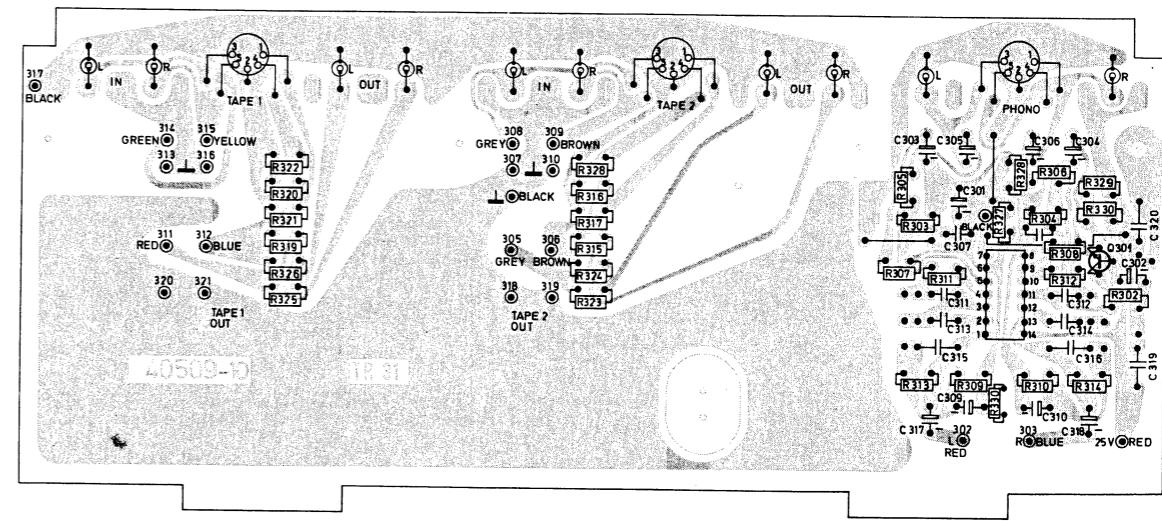


Fig. 24. Inngangsplate.  
Input board.

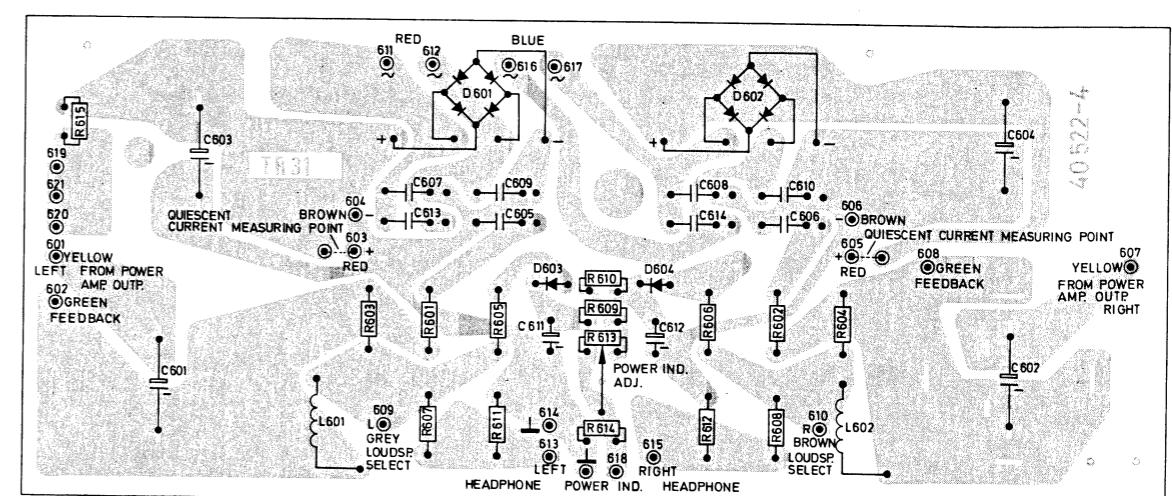


Fig. 25. Likeretterplate.  
Rectifier board.

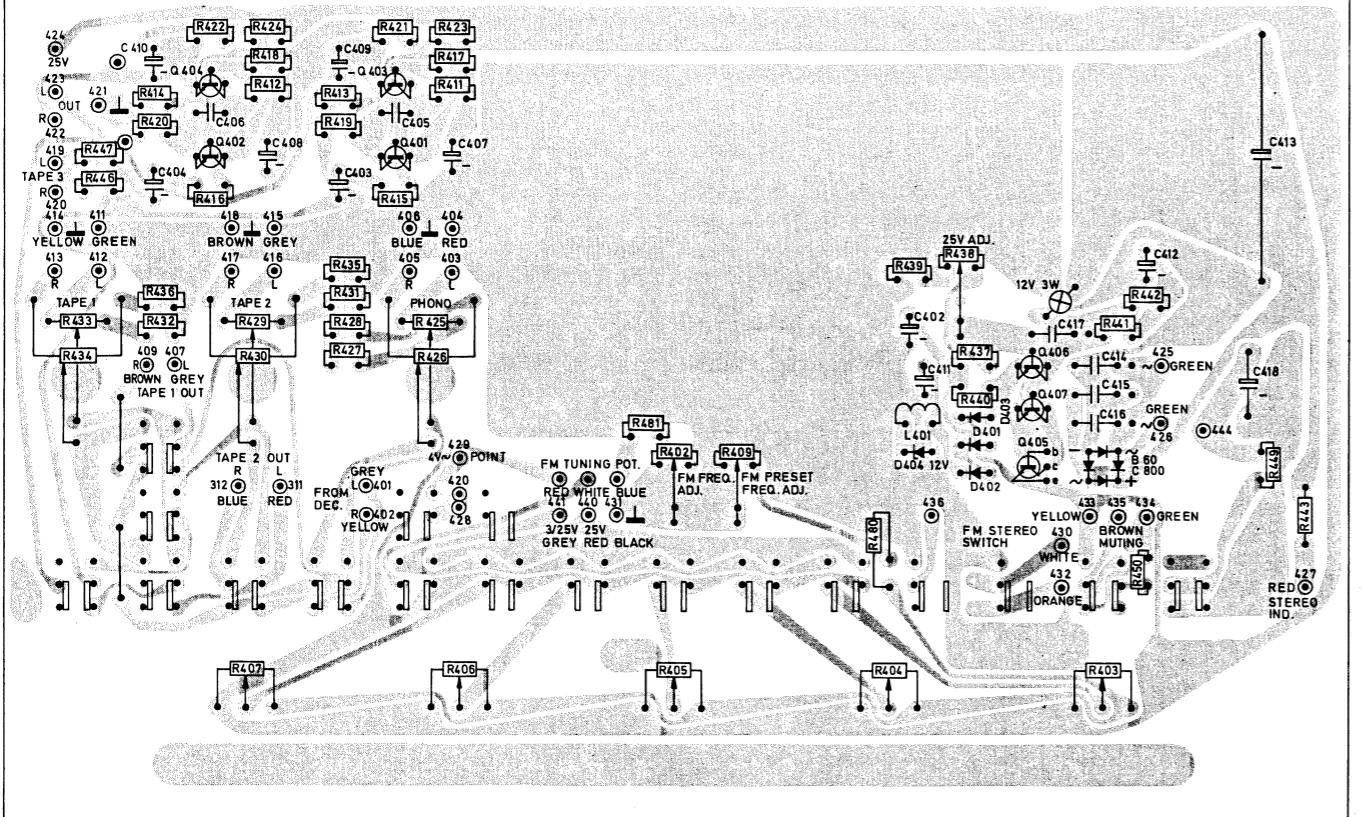


Fig. 26. Venderplate, TR-1000.  
Selector board, TR-1000.

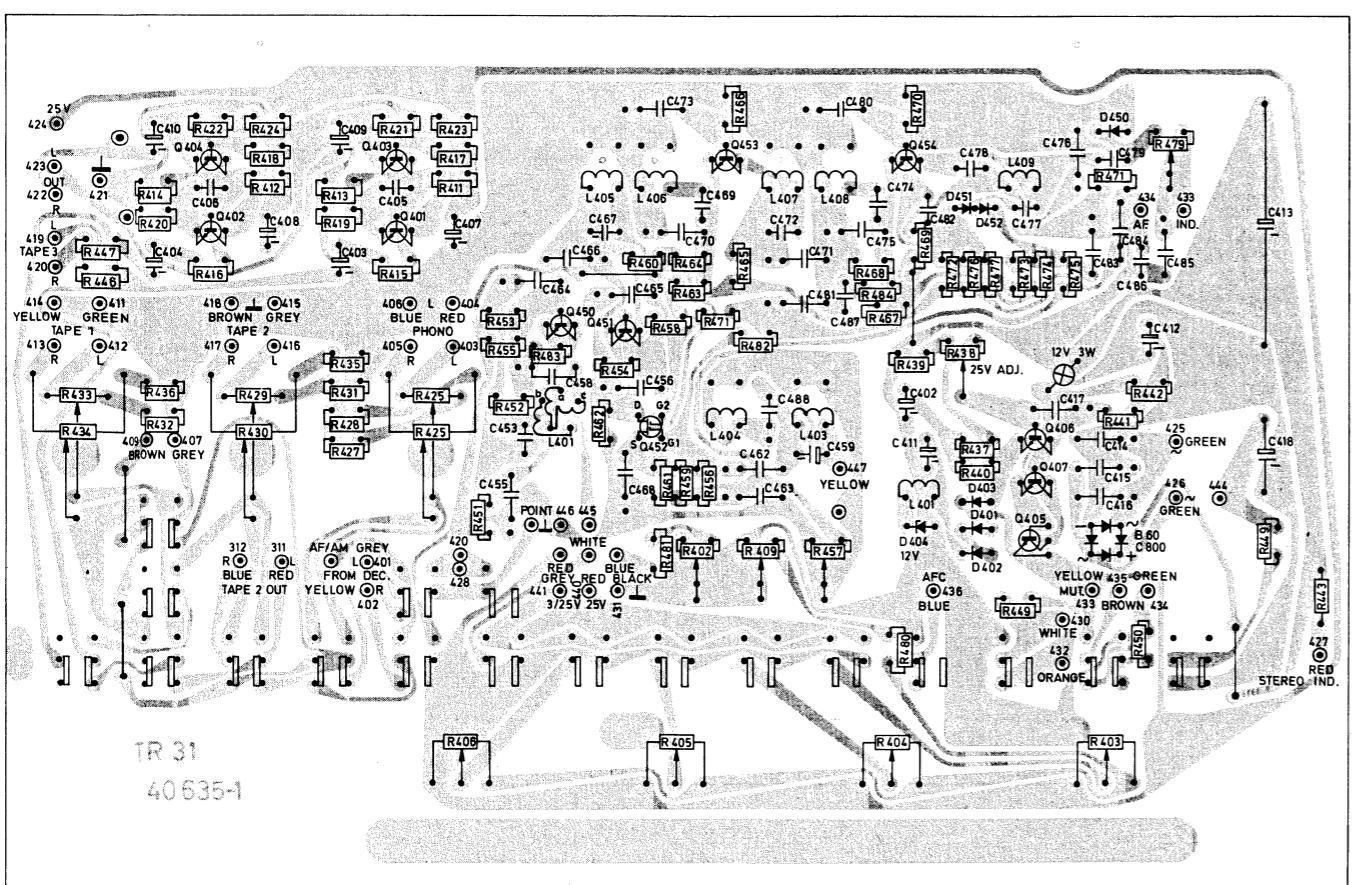
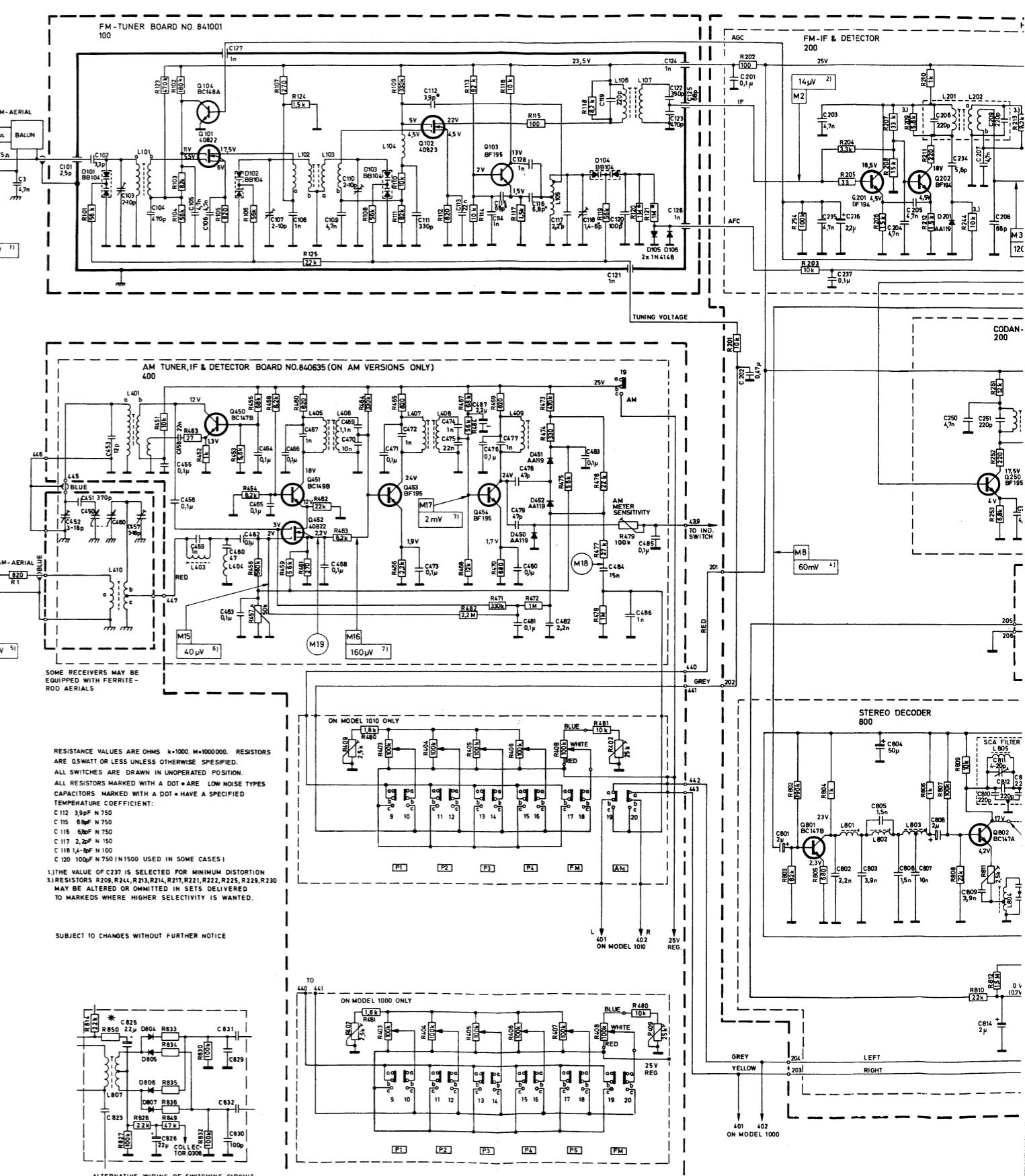
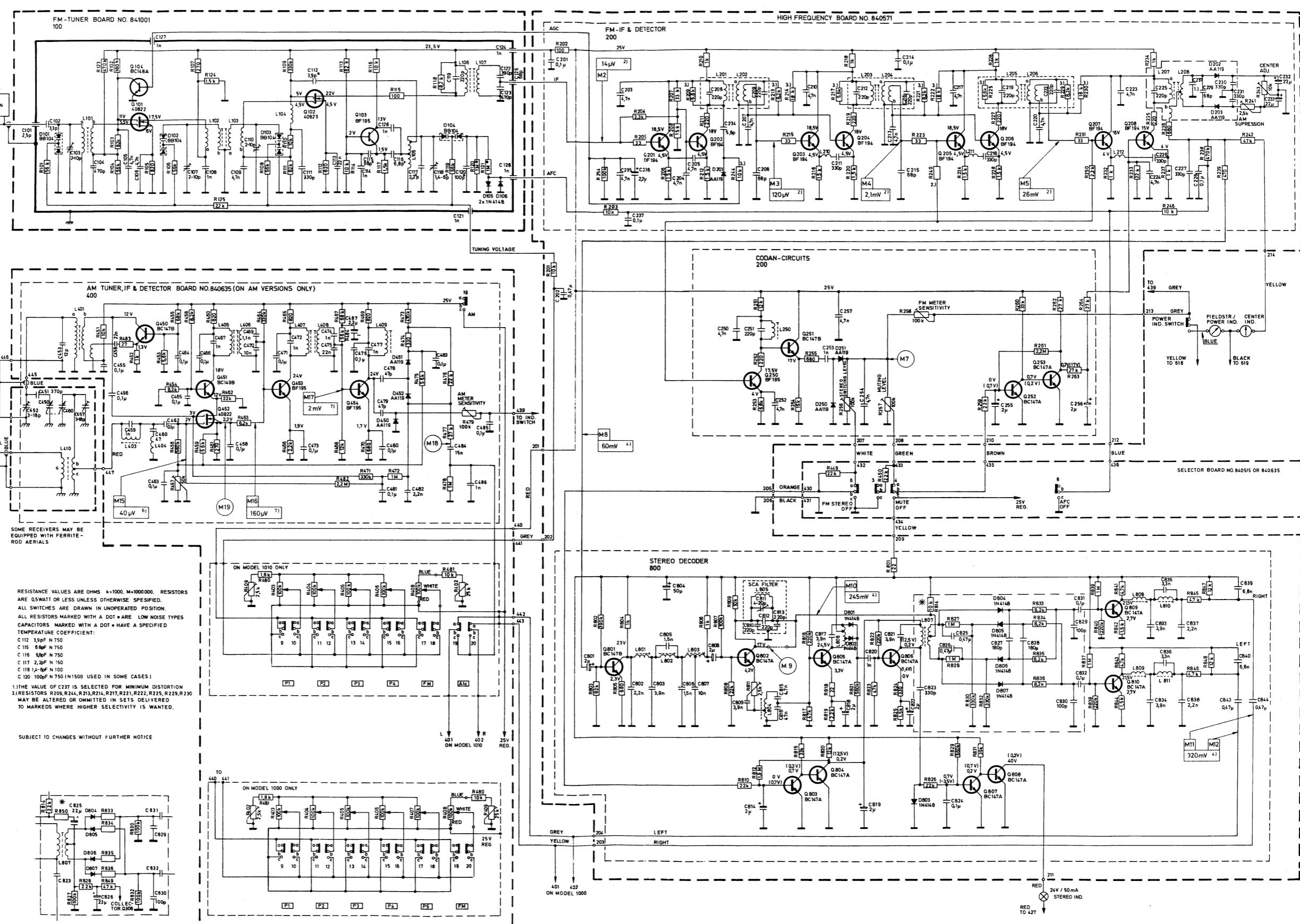
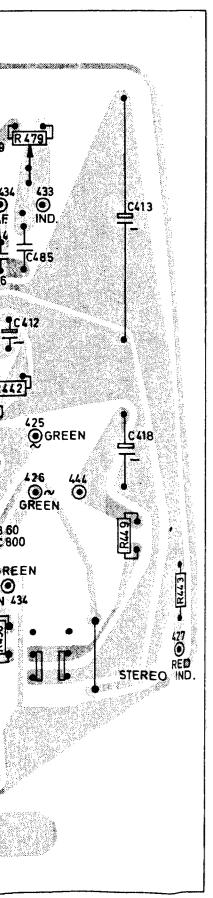
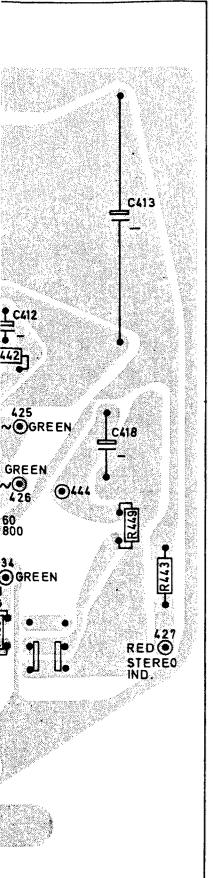


Fig. 27. Venderplate, TR-1010.  
Selector board, TR-1010.



Målebetingelser, – se fig. 18.  
Conditions for measurements, – see fig. 18.



Målebetingelser, – se fig. 18.  
Conditions for measurements, – see fig. 18

Fig. 28. Skjema, radiodel.  
Circuit diagram, tuner section.



## Mikrofonförstärker-

Det er avsatt plass i tonekontrollplaten for innstilling av mikrofonforsterker. Foruten å montere inn de nødvendige komponentene, må visse endringer gjøres på platen. Dessuten må frontpanelet og bunnplaten skiftes. Koplingskjema for mikrofonforsterkeren er vist i fig. 29. Fig. 30 viser de endringer som må utføres på platen ved innstillingen.

in be rewired

10 Hz (-3dB).  
5 ohms, 2 $\mu$ V  
300 ohms.  
0  
360

External aerial

**distortion at**  
ohms.

ifier 0,2 %,

55 dB.  
**8 (4) ohms,**  
 $\equiv$  2: 56 (53)

put in 8 (4)  
TAPE 2: 82

**kHz:**

Alt at phono

## Microphone amplifier.

Space is provided in the tone control board for installation of a microphone amplifier. When installing the microphone amplifier, some modifications must be carried out on the tone control board, some new components must be installed and the front panel and the bottom cover must be replaced. Circuit diagram for the microphone amplifier, see fig. 29. Fig. 30 shows the necessary modifications on the tone control board.

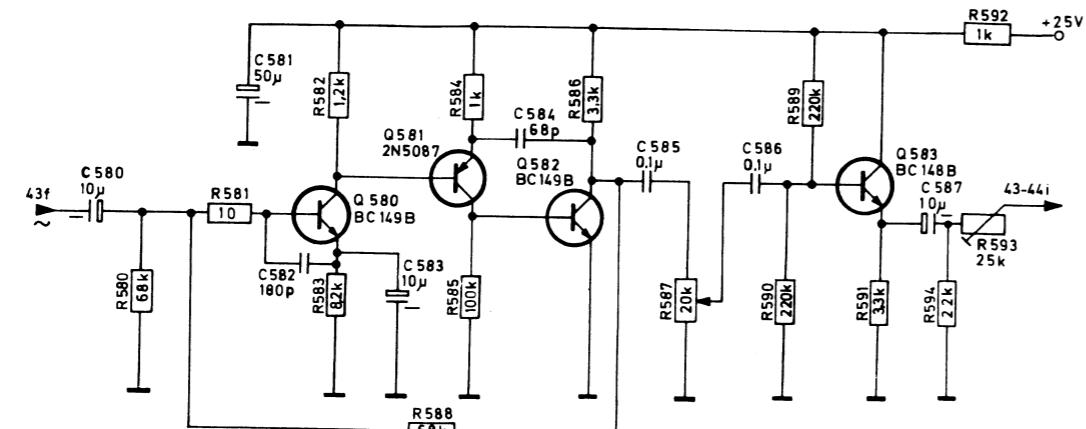


Fig. 29. Skjema, mikrofonforsterker.  
Circuit diagram, microphone amplifier

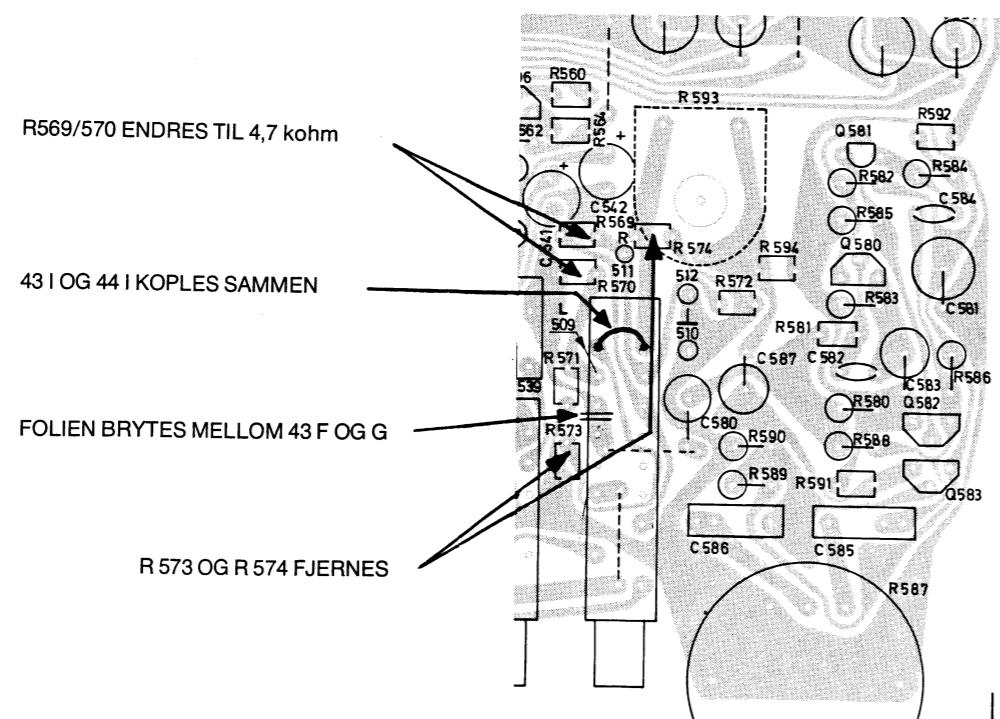


Fig. 30. Endringer ved innmontering av mikrofonforsterker.  
Modifications for installation of microphone amplifier.

## **Elektrisk og mekanisk partsliste, se side 7. Electrical and mechanical parts list, see page 7**

## Endringer

- Q508 er innført for å bedre klirr og intermodulasjon
- Verdiene C530 – C532 – R548 – R550 – R552 er endret for å redusere brum. Koplingen blir mer lav-ohming.
- R726 er innført og R712 er øket til 1 W for å begrense strøm ved kortslutning av høytalerutgangene.
- R705 er innført for justering av symmetrisk klipping.
- Utgangsplaten er endret for å få bedre jording av R704 og for å gi plass til R726 og R712 oppå platen.
- Q301 er innført for å gi raskere stabilisering av arbeidspunktet for integrert krets (TBA 231). Før arbeidspunktet er nådd, vil forsterkeren svinge. Dette vil på apparater med AM (TR-1010/1020) høres som støy på AM idet apparatet slåes på.
- R449 – 450 (22 k $\Omega$ ) innført for å hindre at betjening av FM-STEREO og MUTE skal influere på indikator-utslag.
- R240 (underside av FM-MF plate) innført for å hindre feltstyrkeindikator i å nå max. utslag for tidlig på grunn av tidlig begrensning i MF forsterkeren.
- Ny demodulatorkrets i dekoder innført for å bedre stereomottaking ved ugunstige antenneforhold (jfr. skjema).
- Q405 i 25 V regulator flyttet til sjassi (foran trafo) for å hindre oppvarming av avstemmingspotmeter.
- En tredje diode (D403) innført i regulator for å minske frekvensdrift på FM. Apparater fra tidlig produksjon har tre dioder.

## Modifications

- Q508 is introduced to reduce distortion and inter-modulation.
- The values of C530 – C532 – R548 – R550 and R552 are changed to reduce hum.
- R726 is introduced and R712 is increased to 1 W to limit the current in case of the speaker output being shortcircuited.
- R705 is introduced for adjustment of centre voltage.
- Power amplifier board is modified to improve earth connection of R704 and for introduction of R726 and R712 on the component side.
- Q301 is introduced to obtain a quick stabilizing of the operating point of the integrated circuit. Otherwise the amplifier will oscillate for a moment causing noise on AM (TR-1010/1020) when the radio is switched on.
- R449 and R450, both 22 kohms, are introduced to prevent that operation of FM-STEREO and MUTE should influence on the meter deflection.
- R240 (underneath the FM – IF board) is introduced to alter the tuning meter deflection curve (meter peaks at weak stations).
- Modified demodulator circuit in the stereo decoder (see alternative wiring in the circuit diagram) is introduced to improve stereo reception under unfavourable receiving conditions.
- Q405 in the 25 V regulator is moved and screwed to the chassis (in front of the transformer), to prevent heating the FM-tuning potentiometer.
- A third diode (D403) is introduced in the regulator to reduce frequency drift in the FM-tuner. In the very early production, the three diodes were present.

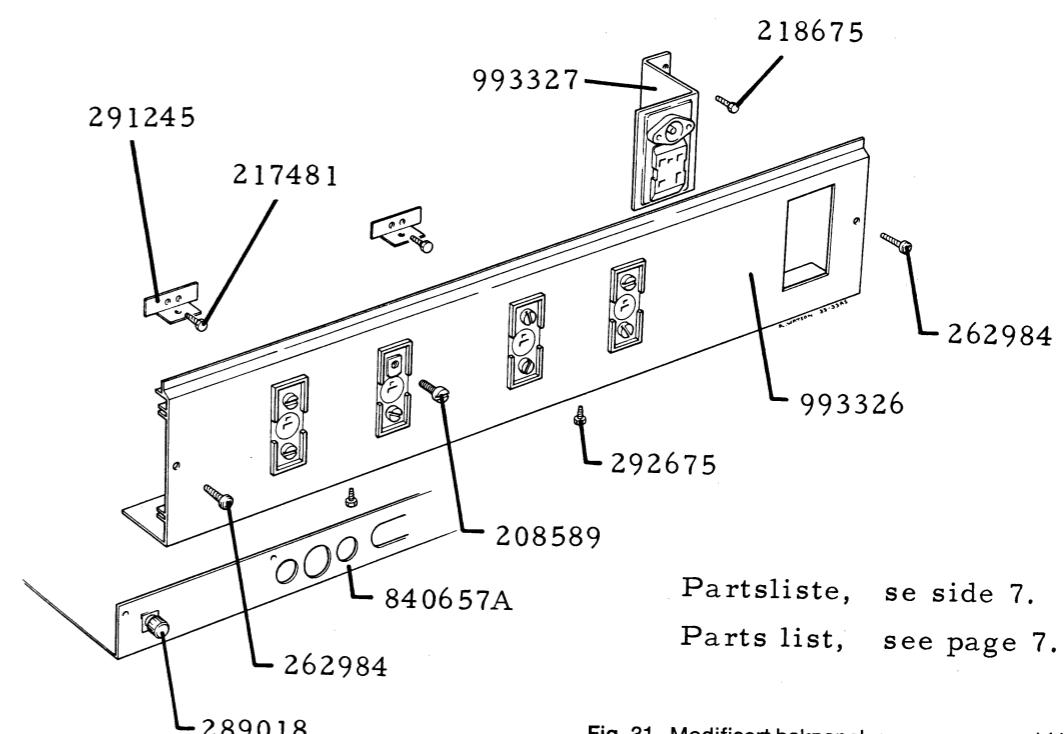
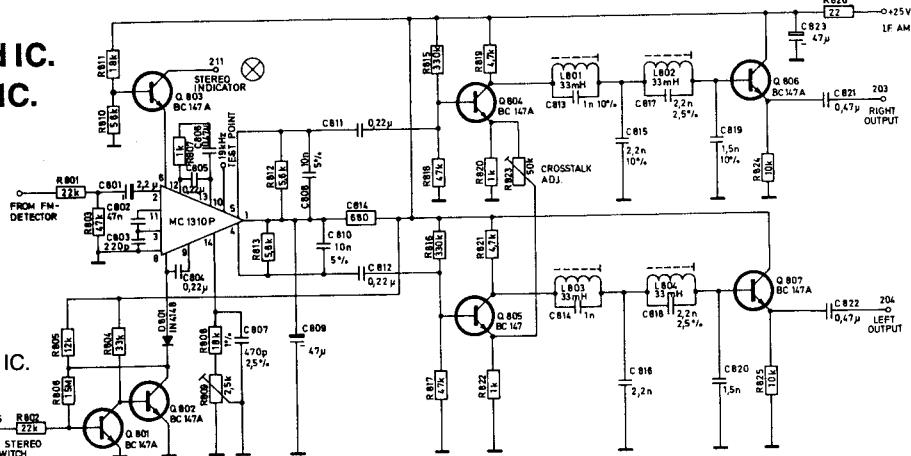


Fig. 31. Modifisert bakpanel, over app.nr. ca. 1410500.  
Modified rear panel, above ser.No. app. 1410500.

## Modifisert stereodekoder med IC. Modified stereo decoder with IC.

Fig. 32. Skjema, stereo dekoder med IC.  
Circuit diagram, stereo decoder with IC.



### Trimmeprosedyre

#### Måleutstyr for en fullstendig justering:

FM-stereogenerator  
Oscilloskop  
Frekvensteller  
Selektivt rørvoltmeter

#### 19 kHz oscillator:

Tilfør antenneinngangen 1 mV/75 ohm fra FM-stereo-generator modulert med 19 kHz, deviasjon 7,5 kHz (pilot-signal). Kortslutt negativ side (kannen) av C801 til jord via en kondensator på 0,22  $\mu$ F eller større.

Frekvensteller tilkoples målepunkt «19 kHz adjust». Justér R809 til 19.00 kHz avlest på frekvenstelleren.

Uten frekvensteller kan oscillator justeres slik: Drei R809 sakte fra en endestilling til litt forbi det punkt der stereoindikatoren tennes. Finjustér R809 til det punkt der potmeteret må dreies like mye begge veier for at stereoindikatoren skal slukke.

#### Omkoplingsnivå mono/stereo.

Tilfør antenneinngangen 10  $\mu$ V/75 ohm fra stereo-generator modulert med 19 kHz, deviasjon 7,5 kHz (pilot-signal).

Sett R256 i endestilling (mot urviseren). Drei R256 sakte med urviseren til stereoindikatoren tennes.

#### Overhøring.

Tilfør antenneinngangen 1 mV/75 ohm fra stereo-generator modulert med 19 kHz, deviasjon 7,5 kHz (pilot-signal), og 1 kHz deviasjon 30–40 kHz (høyre kanal).

Oscilloskop tilkoples diodeuttak for venstre kanal.

Justér R823 til minimum kurvehøyde.

Kontrollér justeringen ved å bytte om kanalene (modulere venstre kanal, oscilloskop til diodeuttak høyre kanal).

#### 19 kHz filter

Tilfør antenneinngangen 1 mV/75 ohm fra stereo-generator modulert med 19 kHz, deviasjon 7,5 kHz (pilot-signal).

Sett kjernene i L801 og L803 i flukt med spoleformens øvre kant.

Selektivt rørvoltmeter koples til høyre kanals diodeuttak, og L802 justeres til minimum utslag 19 kHz.

Voltmeteret flyttes til venstre kanals diodeuttak, og L804 justeres til minimum utslag 19 kHz.

For korrekt justering må et selektivt rørvoltmeter benyttes. Hvis dette ikke er tilgjengelig, tilføres 19 kHz fra en LF-generator til transistoren foran filteret.

### Alignment procedure

#### Necessary equipment for a complete alignment:

FM-stereo generator  
Oscilloscope  
Frequency counter  
Selective voltmeter

#### 19 kHz oscillator

Apply a 1 mV/75 ohm signal from an FM-stereo-generator, modulated with 19 kHz, deviation 7,5 kHz (pilot signal) to the antenna input.

Connect negative side (can) of C801 to ground via a 0,22  $\mu$ F capacitor.

Connect a frequency counter to test point «19 kHz adjust», and adjust R809 to 19.00 kHz reading on the frequency counter.

If a frequency counter is not available, the adjustment can be carried out as follows:

Adjust R809 to the position from where the potentiometer must be turned the same angle to either side to have the STEREO-indicator switched off.

#### Switching level mono/stereo.

Apply a 10  $\mu$ V/75 ohm signal from a stereo generator, modulated with 19 kHz, deviation 7,5 kHz, (pilot signal) to the antenna input.

Set R256 to its extreme position, anticlockwise. Turn R256 slowly clockwise until the STEREO indicator is switched on.

#### Crosstalk

Apply a 1 mV/75 ohm signal from an FM-stereo-generator, modulated with 19 kHz, deviation 7,5 kHz (pilot signal) to the antenna input, and 1 kHz, deviation 30–40 kHz (right channel).

Connect an oscilloscope to the left channel diode output, and adjust R823 to minimum curve height.

Check the alignment by changing channels, (apply signal to the left channel and connect the oscilloscope to the right channel).

#### 19 kHz filter

Apply a 1 mV/75 ohm signal from an FM-stereo generator modulated with 19 kHz, deviation 7,5 kHz (pilot signal) to the antenna input.

Adjust the cores of L801 and L803 to be level with the top of the coil former. Connect a selective voltmeter to the right channel diode output, and adjust L802 to minimum deflection at 19 kHz.

Connect the selective voltmeter to the left channel diode output, and adjust L804 to minimum deflection at 19 kHz.

A selective voltmeter should be used for an optimal alignment. If this is not available, a 19 kHz signal from an audio generator should be applied to the transistor preceding the filter.

Motstander,  
Resistors ,  
TR - 1000/1010  
TR - 1000/1010

Bestillingsnr. Ordering No.	Beskrivelse Description	Bestillingsnr. Ordering No.		Bestillingsnr. Ordering No.	
		R 238 - TR 1000/10		R 239 - TR 1000/10	
R 201 - TR 1000/10	10 kΩ 5% +	286431	"	470 kΩ 5% +	286225
R 202 - "	100 Ω 5% +	285181	"	470 Ω 5% +	289872
R 203 "	10 kΩ 5% +	286431	"	2,7 kΩ 5% +	285454
R 204 "	3,3 kΩ 5% +	287135	"	47 kΩ 5% +	289441
R 205 "	33 Ω 5% +	287214	"	100 kΩ 5% +	286431
R 206 "	1,5 kΩ 5% +	287487	"	10 kΩ 5% +	280944
R 207 "	33 Ω 5% +	287760	"	8,2 kΩ 5% +	286431
R 208 "	15 kΩ 5% +	289793	"	12 kΩ 5% +	288112
R 209 "	5,6 kΩ 5% +	286783	"	220 Ω 5% +	288543
R 210 "	1 kΩ 5% +	289520	"	6,8 kΩ 5% +	288464
R 211 "	220 Ω 5% +	288543	"	15 kΩ 5% +	289793
R 212 "	1,5 kΩ 5% +	287487	"	680 Ω 5% +	286158
R 213 "	8,2 kΩ 5% +	294434	"	22 kΩ 5% +	286079
R 214 "	18 kΩ 5% +	294082	"	33 kΩ 5% +	287760
R 215 "	33 Ω 5% +	287214	"	2,2 MΩ 5% +	291697
R 216 "	1,5 kΩ 5% +	287487	"	27 kΩ 5% +	290368
R 217 "	5,6 kΩ 5% +	286783	"	27 kΩ 5% +	290368
R 218 "	1 kΩ 5% +	289520	"	27 kΩ 5% +	290368
R 219 "	220 Ω 5% +	288543	"	22 kΩ 5% +	286079
R 220 "	1,5 kΩ 5% +	287487	"	100 kΩ 5% +	280944
R 221 "	8,2 kΩ 5% +	294434	"	47 kΩ 5% +	289441
R 222 "	18 kΩ 5% +	294082	"	47 kΩ 5% +	289441
R 223 "	33 Ω 5% +	287214	"	1 kΩ 5% +	289520
R 224 "	1,5 kΩ 5% +	287487	"	1 kΩ 5% +	289520
R 225 "	5,6 kΩ 5% +	286783	"	1,2 kΩ 5% +	285806
R 226 "	1 kΩ 5% +	289520	"	1,2 kΩ 5% +	288895
R 227 "	220 Ω 5% +	288543	"	68 kΩ 5% +	287408
R 228 "	1,5 kΩ 5% +	287487	"	68 kΩ 5% +	287408
R 229 "	5,6 kΩ 5% +	289520	"	39 Ω 5% +	288895
R 230 "	18 kΩ 5% +	294082	"	39 Ω 5% +	288895
R 231 "	33 Ω 5% +	287214	"	820 kΩ 5% +	294568
R 232 "	1 kΩ 5% +	294434	"	820 kΩ 5% +	294568
R 233 "	22 kΩ 5% +	286079	"	150 kΩ 5% +	285375
R 234 "	1 kΩ 5% +	289520	"	150 kΩ 5% +	285375
R 235 "	220 Ω 5% +	288543	"	47 kΩ 5% +	289441
R 236 "	680 Ω 5% +	286158	"	5% +	289441
R 237 "	1 kΩ 5% +	289520	"	150 kΩ 5% +	285375

Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.	Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.
R 321 "	47 kΩ	289441	R 449 "	22 kΩ	5%
R 322 "	47 kΩ	289441	R 1 - TR 1010	820 Ω	5%
R 323 "	10 kΩ	286431	R 451 "	10 kΩ	5%
R 324 "	10 kΩ	286431	R 452 "	1 kΩ	5%
R 325 "	10 kΩ	286431	R 453 "	5,6 kΩ	5%
R 326 - TR 1000/10	10 kΩ	286431	R 454 "	8,2 kΩ	5%
R 327 "	680 kΩ	284306	R 455 "	68 kΩ	5%
R 328 "	680 kΩ	284306	R 456 "	560 kΩ	5%
R 329 "	18 kΩ	294082	R 458 - TR 1010	8,2 kΩ	5%
R 330 "	56 kΩ	285727	R 459 "	56 kΩ	5%
R 411 "	1 MΩ	285023	R 460 "	820 Ω	5%
R 412 "	1 MΩ	285023	R 461 "	270 Ω	5%
R 413 "	270 kΩ	288737	R 462 "	22 kΩ	5%
R 414 "	270 kΩ	288737	R 463 "	8,2 kΩ	5%
R 415 "	1 kΩ	289520	R 464 "	330 kΩ	5%
R 416 "	1 kΩ	289520	R 465 "	820 Ω	5%
R 417 "	22 kΩ	286079	R 466 "	2,2 kΩ	5%
R 418 "	22 kΩ	286079	R 467 "	68 kΩ	5%
R 419 "	10 kΩ	289944	R 468 "	12 kΩ	5%
R 420 "	10 kΩ	289944	R 469 "	820 Ω	5%
R 421 "	8,2 kΩ	294434	R 470 "	680 Ω	5%
R 422 "	8,2 kΩ	294434	R 471 "	330 kΩ	5%
R 423 "	1 kΩ	289520	R 472 "	1 MΩ	5%
R 424 "	1 kΩ	289520	R 473 "	470 kΩ	5%
R 427 "	8,2 kΩ	294434	R 474 "	330 Ω	5%
R 428 "	8,2 kΩ	294434	R 475 "	56 kΩ	5%
R 431 "	8,2 kΩ	294434	R 476 "	22 kΩ	5%
R 432 "	8,2 kΩ	294434	R 477 "	27 kΩ	5%
R 435 "	8,2 kΩ	294434	R 478 "	1 MΩ	5%
R 436 "	8,2 kΩ	294434	R 480 "	8,2 kΩ	5%
R 437 "	2,2 kΩ	289168	R 482 "	2,2 MΩ	5%
R 439 "	3,3 kΩ	287135	R 483 "	27 Ω	5%
R 440 "	3,3 kΩ	287135	R 484 "	56 kΩ	5%
R 441 "	10 kΩ	286431	R 505 "	3,3 kΩ	5%
R 442 "	10 kΩ	286431	R 506 "	3,3 kΩ	5%
R 443 "	330 Ω	277409	R 507 "	820 Ω	5%
R 446 "	10 kΩ	286431	R 508 "	820 Ω	5%
R 447 "	10 kΩ	286431	R 509 "	3,3 kΩ	5%
R 448 "	47 Ω	294186			

Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.	Beskrivelse Description		Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.
R 510 " 3,3 kΩ	5% +	287135	R 557 "	1 MΩ	5% +	R 558 "	1 MΩ
R 515 " 150 kΩ	5% +	285375	R 559 "	1 kΩ	5% +	R 559 "	1 kΩ
R 516 " 150 kΩ	5% +	285375	R 560 "	1 kΩ	5% +	R 560 "	1 kΩ
R 517 " 100 kΩ	5% +	280944	R 561 "	1 MΩ	5% +	R 561 "	1 MΩ
R 518 " 100 kΩ	5% +	280944	R 562 "	1 MΩ	5% +	R 562 "	1 MΩ
R 519 " 1 kΩ	5% +	289520	R 563 "	4,7 kΩ	5% +	R 563 "	4,7 kΩ
R 520 " 1 kΩ	5% +	289520	R 564 "	4,7 kΩ	5% +	R 564 "	4,7 kΩ
R 521 " 2,2 kΩ	5% +	289168	R 565 "	820 Ω	5% +	R 565 "	820 Ω
R 522 " 2,2 kΩ	5% +	289168	R 566 "	820 Ω	5% +	R 566 "	820 Ω
R 523 " 680 Ω	5% +	286158	R 567 "	1 kΩ	5% +	R 567 "	1 kΩ
R 524 " 680 Ω	5% +	286158	R 568 "	1 kΩ	5% +	R 568 "	1 kΩ
R 525 " 3,3 kΩ	5% +	287135	R 569 "	27 kΩ	5% +	R 569 "	27 kΩ
R 526 TR 1010 " 3,3 kΩ	5% +	287135	R 570 "	27 kΩ	5% +	R 570 "	27 kΩ
R 529 " 3,3 kΩ	5% +	287135	R 571 "	10 kΩ	5% +	R 571 "	10 kΩ
R 530 " 3,3 kΩ	5% +	287135	R 572 "	10 kΩ	5% +	R 572 "	10 kΩ
R 533 " 680 Ω	5% +	286158	R 573 "	1 kΩ	5% +	R 573 "	1 kΩ
R 534 " 680 Ω	5% +	286158	R 574 TR 1010 "	1 kΩ	5% +	R 574 TR 1010 "	1 kΩ
R 535 " 3,3 kΩ	5% +	287135	R 575 "	3,9 kΩ	5% +	R 575 "	3,9 kΩ
R 536 " 3,3 kΩ	5% +	287135	R 576 "	3,9 kΩ	5% +	R 576 "	3,9 kΩ
R 537 " 4,7 kΩ	5% +	289441	R 601 "	10 Ω	10% +	R 601 "	10 Ω
R 538 " 4,7 kΩ	5% +	289441	R 602 "	10 Ω	10% +	R 602 "	10 Ω
R 539 " 220 kΩ	5% +	287056	R 603 "	10 Ω	10% +	R 603 "	10 Ω
R 540 " 220 kΩ	5% +	287056	R 604 "	10 Ω	10% +	R 604 "	10 Ω
R 541 " 15 kΩ	5% +	289793	R 605 "	100 Ω	10% +	R 605 "	100 Ω
R 542 " 15 kΩ	5% +	289793	R 606 "	100 Ω	10% +	R 606 "	100 Ω
R 543 " 3,3 kΩ	5% +	287135	R 607 "	150 Ω	10% +	R 607 "	150 Ω
R 544 " 3,3 kΩ	5% +	287135	R 608 "	150 Ω	10% +	R 608 "	150 Ω
R 545 " 150 kΩ	5% +	285375	R 609 "	1 kΩ	5% +	R 609 "	1 kΩ
R 546 " 150 kΩ	5% +	285375	R 610 "	1 kΩ	5% +	R 610 "	1 kΩ
R 547 " 2,2 kΩ	5% +	289168	R 611 "	150 Ω	10% +	R 611 "	150 Ω
R 548 " 2,2 kΩ	5% +	289168	R 612 "	150 Ω	10% +	R 612 "	150 Ω
R 549 " 4,7 kΩ	5% +	285102	R 614 "	47 Ω	5% +	R 614 "	47 Ω
R 550 " 4,7 kΩ	5% +	285102	R 615 "	10 kΩ	5% +	R 615 "	10 kΩ
R 551 " 22 kΩ	5% +	286079	R 701 "	68 kΩ	5% +	R 701 "	68 kΩ
R 552 " 22 kΩ	5% +	286079	R 702 "	220 kΩ	5% +	R 702 "	220 kΩ
R 553 " 4,7 kΩ	5% +	285102	R 703 "	120 kΩ	5% +	R 703 "	120 kΩ
R 554 " 4,7 kΩ	5% +	285102	R 704 "	47 Ω	5% +	R 704 "	47 Ω
R 555 " 10 kΩ	5% +	286431	R 706 "	47 Ω	5% +	R 706 "	47 Ω
R 556 " 10 kΩ	5% +	286431					

Kondensatorer  
Capacitors

TR 1000/1010  
TR 1000/1010

Bestillingarnr. Ordering No.	Beskrivelse Description	Part nr. Part No.
R 707 "	10 kΩ 5%	286431
R 708 "	47 Ω 5%	294786
R 709 "	330 Ω 5%	288191
R 711 "	68 Ω 5%	292883
R 712 "	390 Ω 10%	287201
R 713 "	22 kΩ 5%	286079
R 714 "	22 kΩ 5%	286079
R 715 "	8,2 kΩ 5%	294434
R 716 "	470 Ω 5%	289872
R 717 "	8,2 kΩ 5%	294434
R 718 "	220 Ω 5%	288543
R 719 "	220 Ω 5%	288543
R 720 "	100 Ω 5%	285181
R 721 "	100 Ω 5%	285181
R 722 "	0,18 Ω 10%	280267
R 723 "	0,18 Ω 10%	280267
R 724 "	10 Ω 5%	285533
R 725 "	10 kΩ 5%	286431
R 726 "	120 Ω 10%	276518

Bestillingarnr. Ordering No.	Beskrivelse Description	Part nr. Part No.	Part nr. Part No.
C 2 TR 1000/10	0,1 µF	100V	FOLIE
C 3 "	4700 pF	50V	KER. 2
C 201 "	0,1 µF	100V	FOLIE
C 202 "	0,47 "	100V	FOLIE
C 203 "	4700 pF	50V	KER. 2
C 204 "	4700 "	50V	KER. 2
C 205 "	4700 "	50V	KER. 2
C 206 "	220 "	63V	STYRO
C 207 "	4700 "	50V	KER. 2
C 208 "	68 "	500V	KER. 2
C 209 "	220 "	63V	2,5%
C 210 "	4700 "	50V	KER. 2
C 211 "	330 "	500V	KER. 2
C 212 "	220 "	63V	STYRO
C 213 "	4700 "	50V	KER. 2
C 214 "	0,1 µF	100V	FOLIE
C 215 "	68 pF	500V	KER. 2
C 216 "	220 "	63V	2,5%
C 217 "	4700 "	50V	KER. 2
C 218 "	330 "	500V	KER. 2
C 219 "	220 "	63V	STYRO
C 220 "	4700 "	50V	KER. 2
C 222 "	220 "	63V	2,5%
C 223 "	4700 "	50V	KER. 2
C 224 "	4700 "	50V	KER. 2
C 225 "	220 "	63V	STYRO
C 226 "	330 "	500V	KER. 2
C 227 "	330 "	500V	KER. 2
C 228 "	0,1 µF	100V	FOLIE
C 229 "	68 pF	63V	2,5%
C 230 "	330 pF	500V	KER. 2
C 231 "	330 pF	500V	KER. 2
C 232 "	22 pF	40V	ELKO
C 233 "	22 "	40V	ELKO
C 234 "	5,6 pF	500V	KER. 1 N 150
C 235 "	4700 "	50V	KER. 2
C 236 "	2,2 µF	100V	ELKO

Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.
C 237 TR 1000/10	0, 1 $\mu$ F 100V	290232
C 250 "	4700 pF 50V	287078
C 251 "	220 " 63V 2, 5%	274873
C 252 "	4700 " 50V	287078
C 253 "	1000 " 500V	KER. 2 219724
C 254 "	4700 " 50V	KER. 2 287078
C 255 "	2, 2 $\mu$ F 100V	ELKO 294873
C 256 "	2, 2 " 100V	ELKO 294873
C 257 "	4700 pF 50V	KER. 2 287078
C 301 "	220 $\mu$ F 10V	ELKO 275757
C 302 "	47 " 6, 3V	TANTAL 263710
C 303 "	22 " 16V	TANTAL 263710
C 304 "	22 " 16V	TANTAL 263710
C 305 "	10 " 25V	TANTAL 251196
C 306 "	10 " 25V	TANTAL 251196
C 307 "	180 pF 500V	KER. 2 212165
C 308 "	180 " 500V	KER. 2 212165
C 309 "	1000 " 63V 2, 5%	STYRO 289410
C 310 "	1000 " 63V 2, 5%	STYRO 289410
C 311 "	4700 " 50V	KER. 2 287078
C 312 "	4700 " 50V	KER. 2 287078
C 313 "	4700 " 50V	KER. 2 287078
C 314 "	4700 " 50V	KER. 2 287078
C 315 "	4700 " 630V	FOLIE 283393
C 316 "	4700 " 630V	FOLIE 283393
C 317 "	2, 2 $\mu$ F 35V	TANTAL 265390
C 318 "	2, 2 " 35V	TANTAL 265390
C 319 "	0, 1 " 100V	FOLIE 290232
C 320 "	0, 1 " 100V	FOLIE 290232
C 402 "	10 " 100V	ELKO 251232
C 403 "	10 " 100V	ELKO 251232
C 407 "	100 $\mu$ F 40V	ELKO 254686
C 404 "	10 " 40V	ELKO 254686
C 405 "	180 pF 500V	ELKO 251232
C 406 "	180 " 500V	ELKO 251232
C 410 "	10 " 100V	ELKO 251232
C 411 "	10 " 100V	ELKO 251232

Bestillingsnr. Ordering No.	Beskrivelse Description	Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.
C 237 TR 1000/10	0, 1 $\mu$ F 100V	C 412	" 10 "	ELKO 251232
C 250 "	4700 pF 50V	C 413	" 1000 "	ELKO 244838
C 251 "	220 " 63V 2, 5%	C 414	" 0, 022 "	FOLIE 283041
C 252 "	4700 " 50V	C 415	TR 1000/10 0, 022 $\mu$ F	FOLIE 283041
C 253 "	1000 " 500V	C 416	" 0, 1 "	FOLIE 290232
C 254 "	4700 " 50V	C 418	" 0, 01 "	FOLIE 283393
C 255 "	2, 2 $\mu$ F 100V	C 450/460	TR 1010	DREIE 840628
C 256 "	2, 2 " 100V	C 451	" 370 pF	STYRO TRIKO 04 N750 294728
C 257 "	4700 pF 50V	C 452	" 4, 5-20 "	TRIKO 04 N750 294728
C 301 "	220 $\mu$ F 10V	C 453	" 12 "	KER. 1 N150
C 302 "	47 " 6, 3V	C 455	" 0, 1 $\mu$ F	FOLIE 290232
C 303 "	22 " 16V	C 456	" 0, 1 $\mu$ F	FOLIE 290232
C 304 "	22 " 16V	C 457	" 0, 022 $\mu$ F	TRIKO 288615
C 305 "	10 " 25V	C 458	" 1000 pF	FOLIE 283041
C 306 "	10 " 25V	C 459	" 63V	STYRO TRIKO 04 N750 294728
C 307 "	180 pF 500V	C 460	" 47 pF	KER. 1 N150
C 308 "	180 " 500V	C 462	" 0, 1 $\mu$ F	FOLIE 290232
C 309 "	1000 " 63V 2, 5%	C 463	" 0, 1 $\mu$ F	FOLIE 290232
C 310 "	1000 " 63V 2, 5%	C 464	" 0, 1 "	FOLIE 290232
C 311 "	4700 " 50V	C 465	" 0, 1 "	FOLIE 290232
C 312 "	4700 " 50V	C 466	" 0, 1 "	FOLIE 290232
C 313 "	4700 " 50V	C 467	" 1000 pF	STYRO TRIKO 04 N750 294728
C 314 "	4700 " 50V	C 468	" 0, 1 $\mu$ F	FOLIE 290232
C 315 "	4700 " 630V	C 469	" 1100 pF	STYRO TRIKO 04 N750 294728
C 316 "	4700 " 630V	C 470	" 0, 01 $\mu$ F	FOLIE 283393
C 317 "	2, 2 $\mu$ F 35V	C 471	" 0, 1 "	FOLIE 290232
C 318 "	2, 2 " 35V	C 472	" 1000 pF	STYRO TRIKO 04 N750 294728
C 319 "	0, 1 " 100V	C 473	" 0, 1 $\mu$ F	FOLIE 290232
C 320 "	0, 1 " 100V	C 474	" 1000 pF	STYRO TRIKO 04 N750 294728
C 402 "	10 " 100V	C 475	" 0, 022 $\mu$ F	FOLIE 283041
C 403 "	10 " 100V	C 476	" 0, 1 "	FOLIE 290232
C 404 "	10 " 100V	C 477	" 1000 pF	STYRO TRIKO 04 N750 294728
C 405 "	180 pF 500V	C 478	" 47 pF	KER. 2 322027
C 406 "	180 " 500V	C 479	" 500V	KER. 2 322027
C 407 "	100 $\mu$ F 40V	ELKO 254686	" 0, 1 $\mu$ F	FOLIE 290232
C 408 "	100 " 40V	ELKO 254686	" 0, 1 $\mu$ F	FOLIE 290232
C 409 "	10 " 100V	ELKO 251232	" 2200 pF	KER. 2 251785
C 410 "	10 " 100V	ELKO 251232	" 0, 1 $\mu$ F	FOLIE 290232
C 411 "	10 " 100V	ELKO 251232	" 0, 015 "	FOLIE 281360

Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.
C 485 "	0, 1 "	100V FOLIE KER. 2
C 486 "	1000 pF	500V TANTAL KER. 2
C 487 "	2, 2 $\mu$ F	35V KER. 2
C 488 "	180 pF	500V KER. 2
C 501 TR 1000/10	2200 pF	100V KER. 2
C 502 "	2200 "	100V KER. 2
C 503 "	0, 47 $\mu$ F	100V FOLIE
C 504 "	0, 47 "	100V FOLIE
C 505 "	100 "	16V ELKO
C 506 "	100 "	16V ELKO
C 507 "	10 "	35V ELKO
C 508 "	10 "	35V ELKO
C 509 "	180 pF	500V KER. 2
C 510 "	180 "	500V KER. 2
C 511 "	10 $\mu$ F	35V ELKO
C 512 "	10 "	35V ELKO
C 513 "	0, 015 "	100V FOLIE
C 514 "	0, 015 "	100V FOLIE
C 515 "	0, 1 "	100V FOLIE
C 516 "	0, 1 "	100V FOLIE
C 517 "	0, 1 "	100V FOLIE
C 518 "	0, 1 "	100V FOLIE
C 519 "	0, 015 "	100V FOLIE
C 520 "	0, 015 "	100V FOLIE
C 521 "	10 "	35V ELKO
C 522 "	10, 1 "	35V ELKO
C 523 "	68 pF	500V KER. 2
C 524 "	68 "	500V KER. 2
C 525 "	100 $\mu$ F	16V ELKO
C 526 "	100 "	16V TANTAL
C 527 "	2, 2 "	35V TANTAL
C 528 "	2, 2 "	35V TANTAL
C 529 "	0, 47 "	100V FOLIE
C 530 "	0, 47 "	100V FOLIE
C 531 "	0, 1 "	100V FOLIE
C 532 "	0, 1 "	100V FOLIE
C 533 "	6800 pF	630V FOLIE
C 534 "	6800 "	630V FOLIE
C 535 "	1500 "	630V FOLIE

Bestillingsnr. Ordering No.	Beskrivelse Description	Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.
C 485 "	0, 1 "	C 536 "	1500 "	FOLIE ELKO
C 486 "	1000 pF	C 537 "	2, 2 $\mu$ F	2, 2 $\mu$ F ELKO
C 487 "	2, 2 $\mu$ F	C 538 "	2, 2 "	2, 2 " ELKO
C 488 "	180 pF	C 539 "	0, 022 "	0, 022 " FOLIE
C 501 TR 1000/10	2200 pF	C 540 "	0, 022 "	0, 022 " FOLIE
C 502 "	2200 "	C 541 "	47 "	47 "
C 503 "	0, 47 $\mu$ F	C 542 TR 1000/10	6, 3V 47 $\mu$ F	6, 3V TANTAL
C 504 "	0, 47 "	C 601 "	3300 "	3300 "
C 505 "	100 "	C 602 "	70V 70V	70V ELKO
C 506 "	100 "	C 605 "	0, 1 "	0, 1 "
C 507 "	10 "	C 606 "	0, 1 "	0, 1 "
C 508 "	10 "	C 607 "	0, 022 "	0, 022 "
C 509 "	180 pF	C 608 "	0, 022 "	0, 022 "
C 510 "	180 "	C 609 "	0, 022 "	0, 022 "
C 511 "	10 $\mu$ F	C 610 "	0, 022 "	0, 022 "
C 512 "	10 "	C 611 "	22 "	22 "
C 513 "	0, 015 "	C 612 "	40V 40V	40V ELKO
C 514 "	0, 015 "	C 613 "	0, 1 "	0, 1 "
C 515 "	0, 1 "	C 614 "	0, 1 "	0, 1 "
C 516 "	0, 1 "	C 701 "	22 "	22 "
C 517 "	0, 1 "	C 702 "	100V 22 "	100V ELKO
C 518 "	0, 1 "	C 703 "	470 pF 500V	470 pF KER. 2
C 519 "	0, 015 "	C 704 "	220 $\mu$ F 10V	220 $\mu$ F ELKO
C 520 "	0, 015 "	C 705 "	220 "	220 "
C 521 "	10 "	C 706 "	47 pF 500V	47 pF KER. 2
C 522 "	10, 1 "	C 707 "	0, 1 $\mu$ F 100V	0, 1 $\mu$ F FOLIE
C 523 "	68 pF	C 708 "	0, 022 "	0, 022 "
C 524 "	68 "	C 709 "	0, 022 "	0, 022 "
C 525 "	100 $\mu$ F	C 710 "	0, 1 "	0, 1 "
C 526 "	100 "			100V
C 527 "	2, 2 "			
C 528 "	2, 2 "			
C 529 "	0, 47 "			
C 530 "	0, 47 "			
C 531 "	0, 1 "			
C 532 "	0, 1 "			
C 533 "	6800 pF			
C 534 "	6800 "			
C 535 "	1500 "			

Stereo dekoder, type 1 (uten IC)  
Stereo decoder, type 1 (without IC)

Stereo dekoder, type 2 (med IC)  
Stereo decoder, type 2 (with IC)

Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.
C 801 TR 1000/10	2, 2 $\mu$ F 100V	294873
C 802 "	2200 pF 100V	251785
C 803 "	3900 "	KER. 2
C 804 "	47 $\mu$ F 40V	257489
C 805 "	1500 pF 63V 2, 5%	ELKO
C 806 "	1500 "	KER. 2
C 807 "	0, 01 $\mu$ F 100V	FOLIE
C 808 "	2, 2 "	ELKO
C 809 "	3900 pF 63V 2, 5%	STYRO
C 814 "	2, 2 $\mu$ F 100V	ELKO
C 815 "	4700 pF 63V 2, 5%	STYRO
C 816 "	0, 047 $\mu$ F 250V	FOLIE
C 817 "	3900 pF 63V 2, 5%	STYRO
C 818 "	2, 2 $\mu$ F 100V	ELKO
C 819 "	2, 2 $\mu$ F 100V	ELKO
C 820 "	1000 pF 500V	KER. 2
C 821 "	3900 "	STYRO
C 822 TR 1000/10	2, 2 $\mu$ F 100V	ELKO
C 823 "	3300 pF 500V	KER. 2
C 824 "	0, 1 $\mu$ F 100V	FOLIE
C 825 "	22 "	ELKO
C 826 "	22 "	ELKO
C 829 "	100 pF 500V	KER. 2
C 830 "	100 "	500V
C 831 "	0, 1 $\mu$ F 100V	FOLIE
C 831 "	0, 1 "	100V
C 832 "	0, 1 "	FOLIE
C 833 "	3900 pF 100V	KER. 2
C 834 "	3900 "	100V
C 835 "	3300 "	STYRO
C 836 "	3300 "	STYRO
C 837 "	2200 "	KER. 2
C 838 "	2200 "	KER. 2
C 843 "	0, 47 $\mu$ F 100V	FOLIE
C 844 "	0, 47 "	FOLIE

Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.
C 801 TR 1000/10	2, 2 $\mu$ F 100V	294873
C 802 "	2200 pF 100V	251785
C 803 "	3900 "	KER. 2
C 804 "	47 $\mu$ F 40V	257489
C 805 "	1500 pF 63V 2, 5%	ELKO
C 806 "	1500 "	KER. 2
C 807 "	0, 01 $\mu$ F 100V	FOLIE
C 808 "	2, 2 "	ELKO
C 809 "	3900 pF 63V 2, 5%	STYRO
C 814 "	2, 2 $\mu$ F 100V	ELKO
C 815 "	4700 pF 63V 2, 5%	STYRO
C 816 "	0, 047 $\mu$ F 250V	FOLIE
C 817 "	3900 pF 63V 2, 5%	STYRO
C 818 "	2, 2 $\mu$ F 100V	ELKO
C 819 "	2, 2 $\mu$ F 100V	ELKO
C 820 "	1000 pF 500V	KER. 2
C 821 "	3900 "	STYRO
C 822 TR 1000/10	2, 2 $\mu$ F 100V	ELKO
C 823 "	3300 pF 500V	KER. 2
C 824 "	0, 1 $\mu$ F 100V	FOLIE
C 825 "	22 "	ELKO
C 826 "	22 "	ELKO
C 829 "	100 pF 500V	KER. 2
C 830 "	100 "	500V
C 831 "	0, 1 $\mu$ F 100V	FOLIE
C 831 "	0, 1 "	100V
C 832 "	0, 1 "	FOLIE
C 833 "	3900 pF 100V	KER. 2
C 834 "	3900 "	100V
C 835 "	3300 "	STYRO
C 836 "	3300 "	STYRO
C 837 "	2200 "	KER. 2
C 838 "	2200 "	KER. 2
C 843 "	0, 47 $\mu$ F 100V	FOLIE
C 844 "	0, 47 "	FOLIE

Stereo dekoder, type 1 (uten IC)  
Stereo decoder, type 1 (without IC)

Bestillingsnr. Ordering No.	Beskrivelse Description	Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.	Part nr. Part No.
R 801 - TR 1000/10	22 Ω	5%	220 kΩ	5%	287056
R 802	390 kΩ	5%	4,7 kΩ	5%	285102
R 803	82 kΩ	5%	1,5 kΩ	5%	287487
R 804	1 kΩ	5%	4,7 kΩ	5%	285102
R 805	680 Ω	5%	R 844 - TR 1000/10	1,5 kΩ	287487
R 806	1 kΩ	5%	R 845	4,7 kΩ	285102
R 807	100 kΩ	5%	R 846	4,7 kΩ	285102
R 808	22 kΩ	5%	R 847	12 kΩ	288112
R 809	10 kΩ	5%	R 848	12 kΩ	288112
R 810	22 kΩ	5%			
R 812	1,5 MΩ	5%			
R 814	22 kΩ	5%			
R 815	33 kΩ	5%			
R 816	220 kΩ	5%			
R 817	47 kΩ	5%			
R 818	22 Ω	5%			
R 819	2,2 kΩ	5%			
R 820	12 kΩ	5%			
R 821	560 kΩ	5%			
R 822	220 kΩ	5%			
R 823	47 kΩ	5%			
R 824	330 Ω	5%			
R 825	1,5 kΩ	5%			
R 826	22 kΩ	5%			
R 827	100 kΩ	5%			
R 828	22 kΩ	5%			
R 829	560 kΩ	5%			
R 830	100 kΩ	5%			
R 831	39 kΩ	5%			
R 832	100 kΩ	5%			
R 833	8,2 kΩ	5%			
R 834	8,2 kΩ	5%			
R 835	8,2 kΩ	5%			
R 836	8,2 kΩ	5%			
R 837	1 MΩ	5%			
R 838	220 kΩ	5%			
R 839	1 MΩ	5%			
Stereo dekoder, type 1 (uten IC) Stereo decoder, type 1 (without IC)					
Bestillingsnr. Ordering No.	Beskrivelse Description	Bestillingsnr. Ordering No.	Beskrivelse Description	Part nr. Part No.	Part nr. Part No.
R 840	"	220 kΩ	5%	286079	286079
R 841	"	4,7 kΩ	5%	286079	286079
R 842	"	1,5 kΩ	5%	289441	289441
R 843	"	4,7 kΩ	5%	287760	287760
R 844 - TR 1000/10	"	22 kΩ	5%	288112	288112
R 845	"	4,7 kΩ	5%	290383	290383
R 846	"	33 kΩ	5%	289520	289520
R 847	"	12 kΩ	5%	306179	306179
R 848	"	1,5 MΩ	5%	286783	286783
R 801 - TR 1000/10	"	22 kΩ	5%	294082	294082
R 802	"	22 kΩ	5%	286783	286783
R 803	"	4,7 kΩ	5%	293730	293730
R 804	"	33 kΩ	5%	289441	289441
R 805	"	12 kΩ	5%	285102	285102
R 806	"	1,5 MΩ	5%	286431	286431
R 807	"	1 kΩ	5%	286311	286311
R 808	"	16 kΩ	1%	29350	29350
R 810	"	5,6 kΩ	5%	285102	285102
R 811	"	18 kΩ	5%	286431	286431
R 812	"	5,6 kΩ	5%	286311	286311
R 813	"	5,6 kΩ	5%	285102	285102
R 814	"	6,80 Ω	5%	289441	289441
R 815	"	330 kΩ	5%	286431	286431
R 816	"	330 kΩ	5%	285102	285102
R 817	"	47 kΩ	5%	286311	286311
R 818	"	47 kΩ	5%	289441	289441
R 819	"	4,7 kΩ	5%	286431	286431
R 820	"	1 kΩ	5%	286311	286311
R 821	"	4,7 kΩ	5%	285102	285102
R 822	"	4,7 kΩ	5%	286431	286431
R 823	"	4,7 kΩ	5%	286311	286311
R 824	"	10 kΩ	5%	29350	29350
R 825	"	22 Ω	5%	285102	285102

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